NBS

Technical Note No. 69

Boulder Laboratories

LOW- AND VERY LOW- RADIOFREQUENCY MODEL IONOSPHERE REFLECTION COEFFICIENTS

BY J. R. JOHLER, L. C. WALTERS, AND J. D. HARPER, JR.

U. S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

THE NATIONAL BUREAU OF STANDARDS

Functions and Activities

The functions of the National Bureau of Standards are set forth in the Act of Congress, March 3, 1901, as amended by Congress in Public Law 619, 1950. These include the development and maintenance of the national standards of measurement and the provision of means and methods for making measurements consistent with these standards, the determination of physical constants and properties of materials, the development of methods and instruments for testing materials, devices, and structures, advisory services to government agencies on scientific and technical problems, invention and development of devices to serve special needs of the Government, and the development of standard practices, codes, and specifications. The work includes basic and applied research, development, engineering, instrumentation, testing, evaluation, calibration services, and various consultation and information services. Research projects are also performed for other government agencies when the work relates to and supplements the basic program of the Bureau or when the Bureau's unique competence is required. The scope of activities is suggested by the listing of divisions and sections on the inside of the back cover.

Publications

The results of the Bureau's work take the form of either actual equipment and devices or published papers. These papers appear either in the Bureau's own series of publications or in the journals of professional and scientific societies. The Bureau itself publishes three periodicals available from the Government Printing Office: The Journal of Research, published in four separate sections, presents complete scientific and technical papers; the Technical News Bulletin presents summary and preliminary reports on work in progress; and Basic Radio Propagation Predictions provides data on determining the best frequencies to use for radio communications throughout the world. There are also five series of nonperiodical publications: Monographs, Applied Mathematics Series, Handbooks, Miscellaneous Publications, and Technical Notes.

Information on the Bureau's publications can be found in NBS Circular 460, Publications of the National Bureau of Standards ($1.25) and its Supplement ($1.50), available from the Superintendent of Documents, Government Printing Office, Washington 25, D.C.

NATIONAL BUREAU OF STANDARDS

Technical Note

No. 69

LOW- AND VERY LOW-RADIOFREQUENCY MODEL IONOSPHERE REFLECTION COEFFICIENTS

by

J. R. Johler
L. C. Walters
J. D. Harper, Jr.

July 1, 1960

DISTRIBUTED BY

UNITED STATES DEPARTMENT OF COMMERCE

OFFICE OF TECHNICAL SERVICES

WASHINGTON 25, D. C.

Price $2.00

CONTENTS

LOW- AND VERY LOW-RADIOFREQUENCY MODEL IONOSPHERE REFLECTION COEFFICIENTS

by

J. R. Johler
L. C. Walters
J. D. Harper, Jr.

ABSTRACT

The results of extensive computations performed during the course of a theoretical investigation of a sharply bounded model ionosphere for low- and very low-radiofrequency wave propagation are presented in the form of graphs and tables.

PREFACE

Graphs and tables heretofore unpublished have been developed at low- and very low-radiofrequencies during the course of a theoretical investigation† of a sharply bounded model ionosphere with superposed magnetic induction.

The reflection coefficients are specified by the angle of incidence, Fig. 1, ϕ_i, the electron density N(el/cm^3), the earth's magnetic field intensity H_m (gauss), the magnetic inclination or dip I (reckoned from the horizontal, Fig. 1), the magnetic azimuth ϕ_a, reckoned clockwise from magnetic north, Fig. 1, and the collision frequency ν, c/s.

---

† J. R. Johler and L. C. Walters, On the theory of reflection of low- and very low-radiofrequency waves from the ionosphere, Jour. of Res. of the National Bureau of Standards, Vol. 64D, No. 3, May-June 1960, pp. 269-285.

The propagation below the ionosphere (i.e. waves traveling from the ionosphere into the negative Z region, Fig. 1, assuming the x-y plane as the boundary) is defined by four reflection coefficients T_{ee}, T_{em}, T_{me}, T_{mm}, which relate the reflected radiation to the primary or incident radiation. The reflection coefficient T_{ee} refers to the vertical electric polarization of the incident plane wave and a similar vertical electric polarization of the reflected wave. The coefficient T_{em} describes the generation of the abnormal component by the incident vertical polarization (vertical electric-magnetic coupling). Similarly, T_{mm} refers to the incident horizontal electric polarization and the corresponding reflected horizontal electric polarization. The abnormal component generated by horizontal electric polarization (vertical magnetic-electric coupling) is described by the coefficient T_{me}.

The reflection coefficients are therefore defined, Fig. 1,

$$T_{ee} = \frac{E_{y^{\S}r}}{E_{y^{\S}i}} \quad , \qquad T_{me} = \frac{E_{y^{\S}r}}{E_{x^{\S}i}} \quad ,$$

$$T_{em} = \frac{E_{x^{\S}r}}{E_{y^{\S}i}} \quad , \qquad T_{mm} = \frac{E_{x^{\S}r}}{E_{x^{\S}i}} \quad ,$$

where the subscripts i and r refer to incident and reflected wave respectively. Detailed formulas for these reflection coefficients

have been presented[†].

Figs. 1 - 25 illustrate the effect of the magnetic azimuth, ϕ_a, i. e. the direction of propagation relative to the direction of the earth's magnetic field on the reflection coefficient.

The Q-L approximation theory was discussed in detail in the previous paper[†] and computations based on this theory are illustrated Figs. 26-31, Tables 74-88[††].

Tables 1-19[††] are tabulated as a function of frequency, f. Tables 20-53 are tabulated both as a function of frequency, f, and magnetic azimuth, ϕ_a.

[††] The integer to the right of each table entry, if present, indicates the power of the factor ten (10) by which the entry is to be multiplied, thus, 6.4307-1 = 0.64307.

LIST OF FIGURES

Fig.	N, el/cm^3	ν, c/s	ϕ_i, degrees	H_m, gauss	I, degrees	f, kc	
2	10^3	$2(10^7)$	82	0.5	0	10	7
3						20	8
4					45	10	9
5						20	10
6					84.27	10	11
7						20	12
8	$3(10^3)$				0	10	13
9						20	14
10					45	10	15
11						20	16
12					84.27	10	17
13						20	18
14	$1.2(10^3)$	10^6	80.397		0	10	19
15						20	20
16						40	21
17						100	22
18						135	23
19					45	20	24

Fig.	N, el/cm^3	ν, c/s	ϕ_i, degrees	H_m, gauss	I, degrees	f, kc	Page
20						40	25
21						135	26
22					84.27	10	27
23						20	28
24	$1.2(10^3)$	10^6	80.397	0.5	84.27	40	29
25						100	30
26						135	31

Figs. 27-32 Model ionosphere reflection coefficients evaluated with the aid of the Q-L approximation.

Fig.	ϕ_i, degrees	ϕ_1, degrees	ω/ω_r	T	
27	0-90	10, 60	0.3002	All	32
28			0.467	All	33
29	5-75	60	0.01-10	T_{ee}	34
30				T_{mm}	35
31				T_{em}	36
32				T_{me}	37

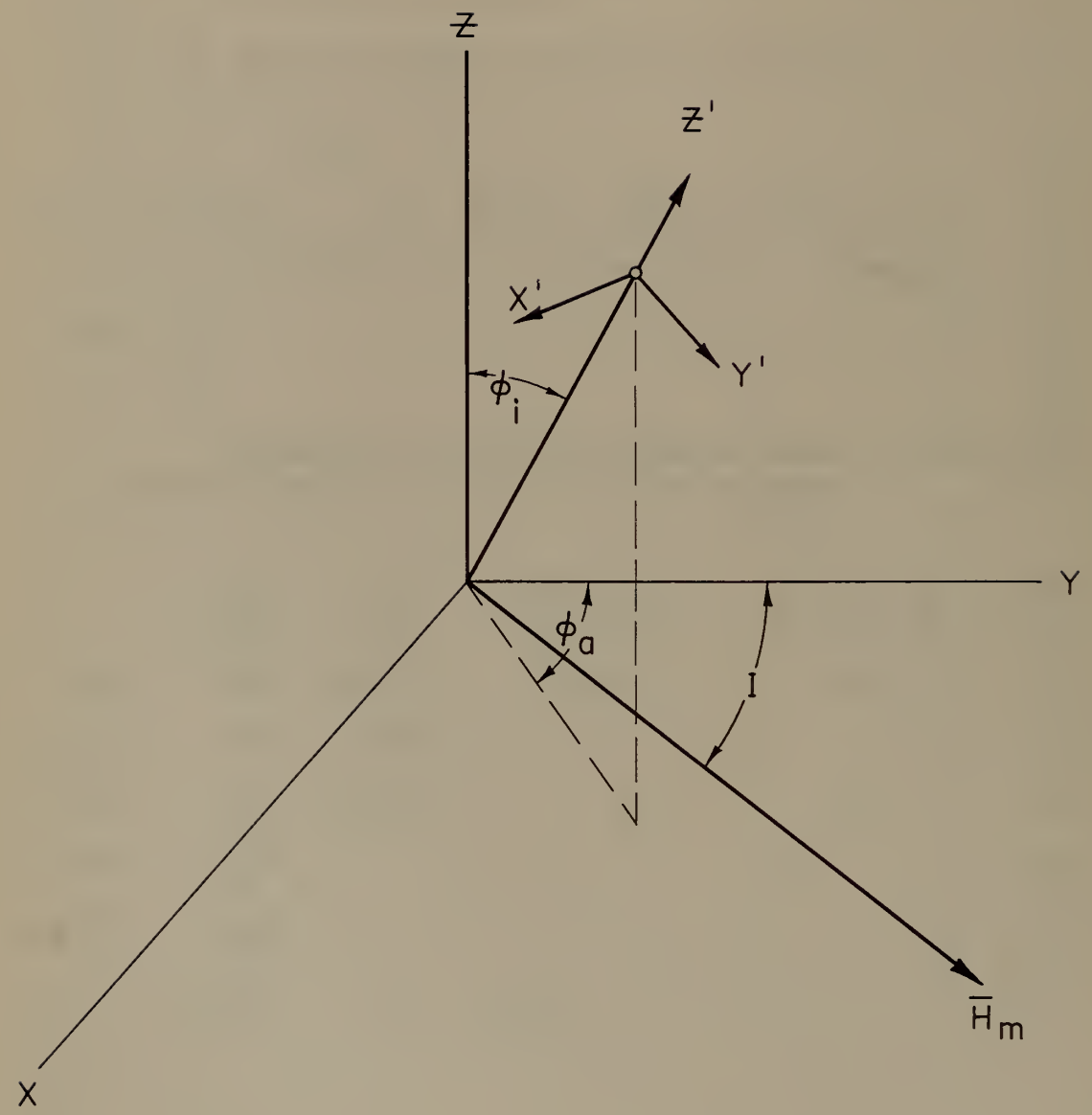

Fig. 1 - Coordinate systems.

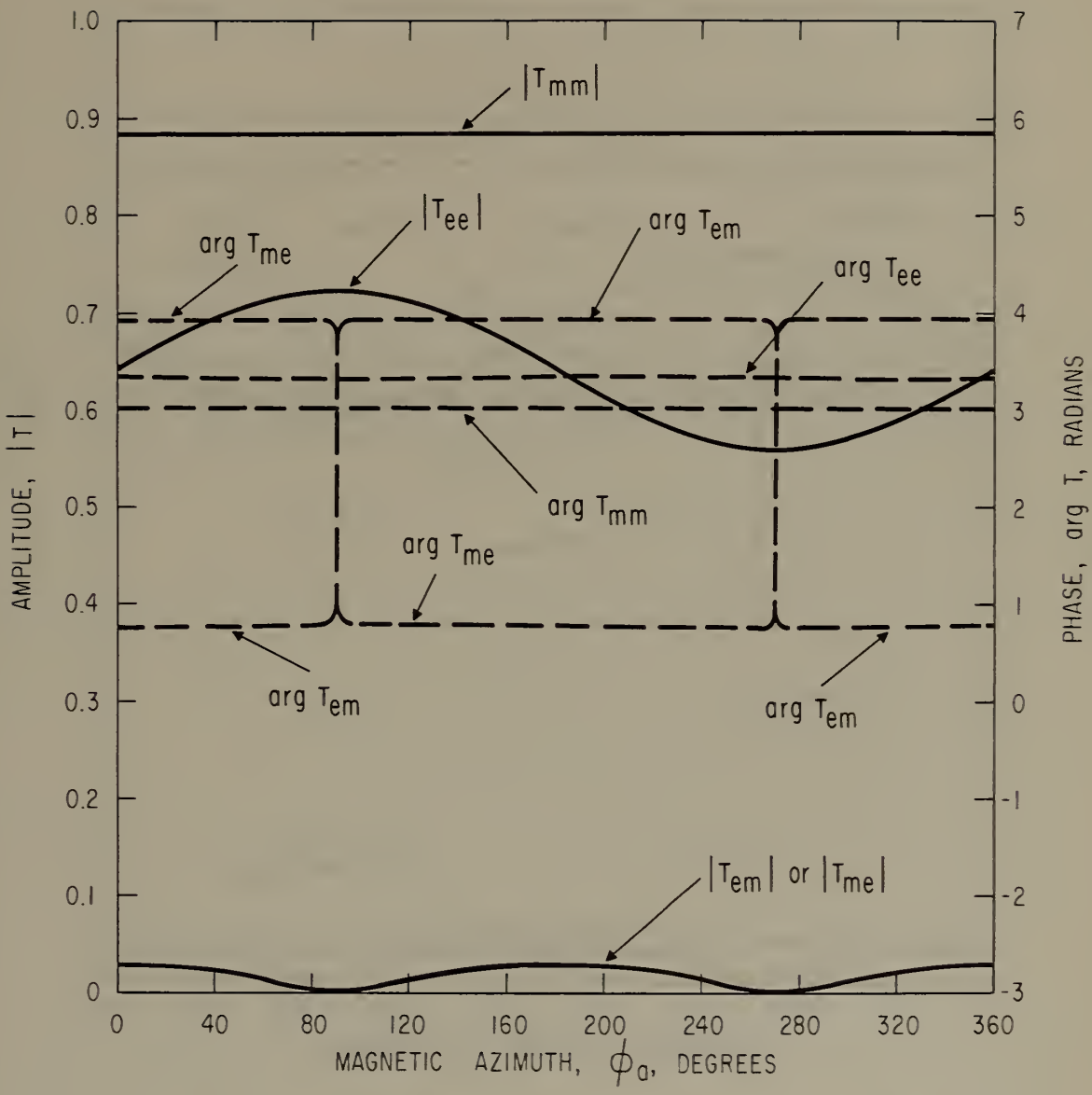

Fig. 2 - Model ionosphere reflection coefficients. $N = 10^3$, $\nu = 2\ (10^7)$, $\phi_i = 82^o$, $H_m = 0.5$, $I = 0$, $f = 10$ kc.

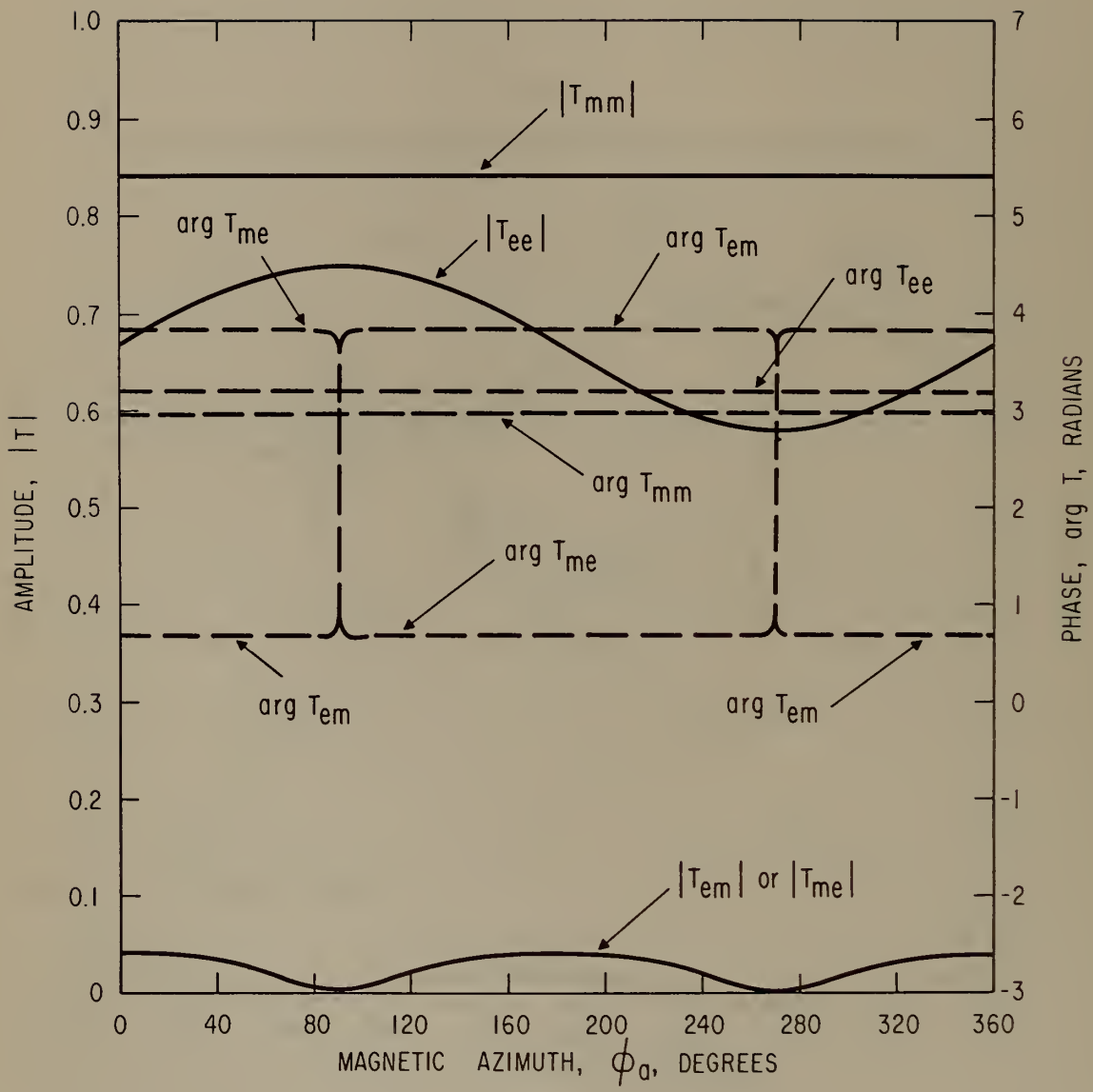

Fig. 3 - Model ionosphere reflection coefficients. $N = 10^3$, $\nu = 2\,(10^7)$, $\phi_i = 82^\circ$, $H_m = 0.5$, $I = 0$, f = 20 kc.

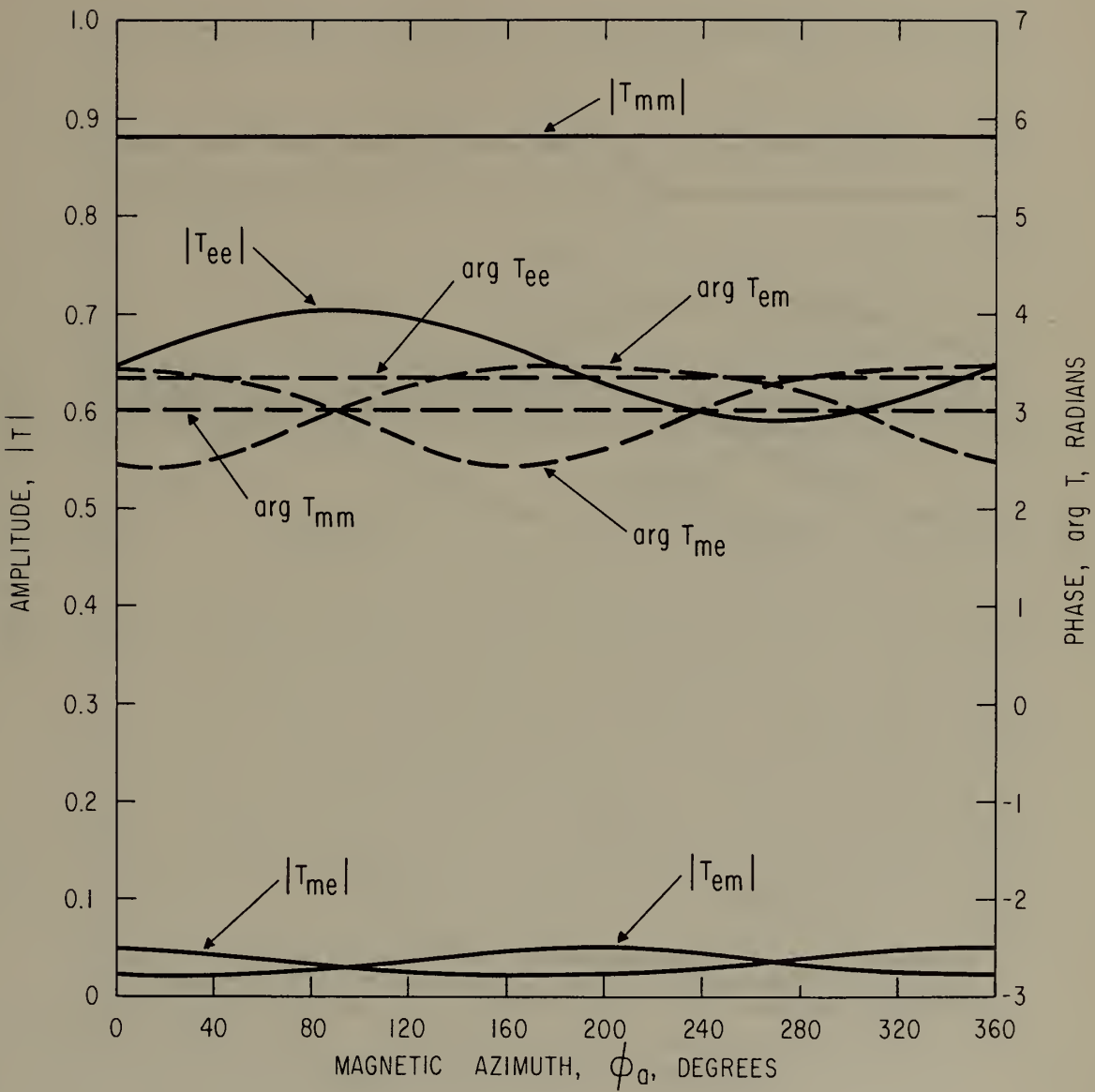

Fig. 4 - Model ionosphere reflection coefficients. $N = 10^3$, $\nu = 2\ (10^7)$, $\phi_i = 82^o$, $H_m = 0.5$, I = 45°, f = 10 kc.

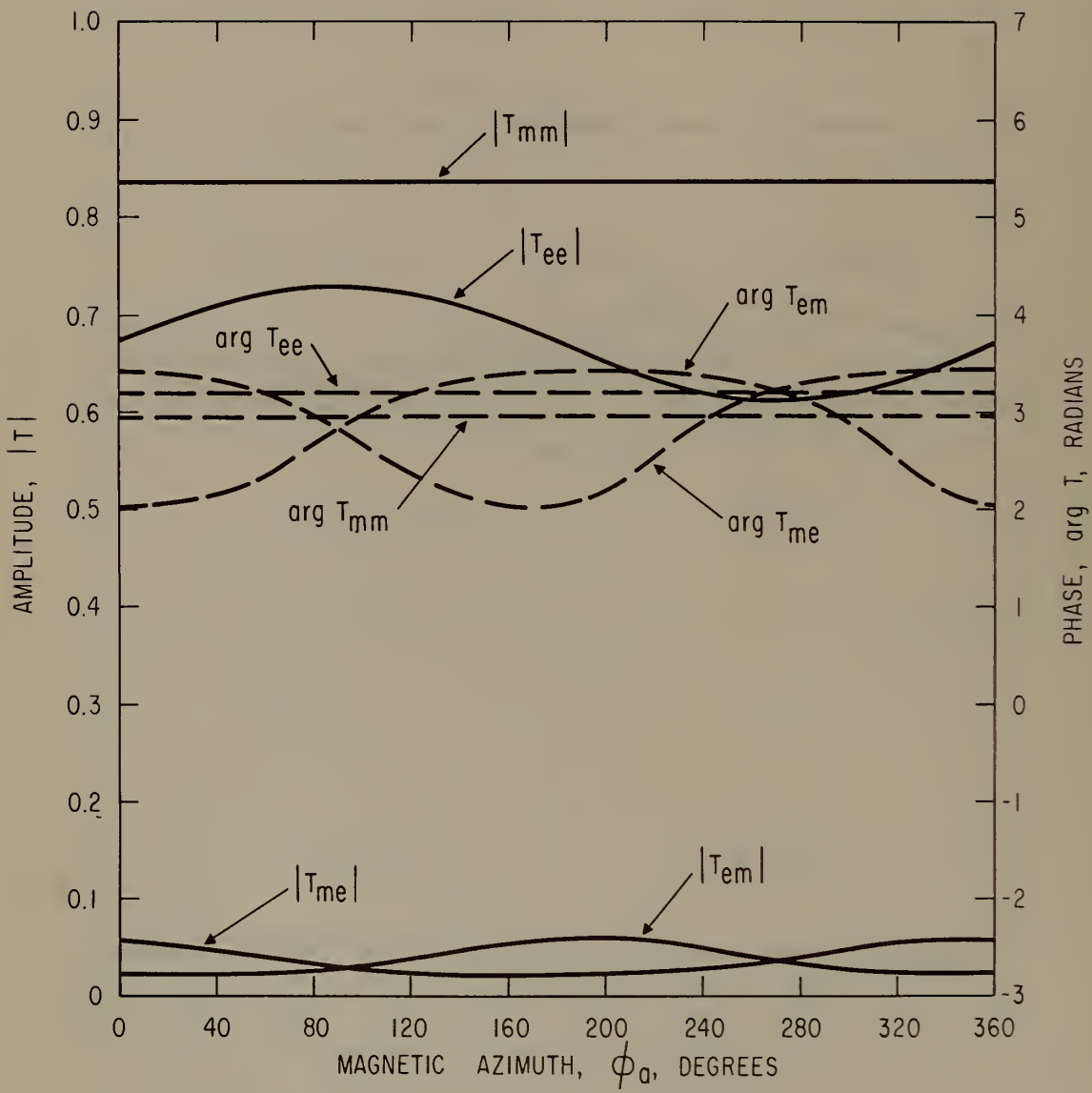

Fig. 5 - Model ionosphere reflection coefficients. $N = 10^3$, $\nu = 2\ (10^7)$, $\phi_i = 82^o$, $H_m = 0.5$, $I = 45^o$, f = 20 kc.

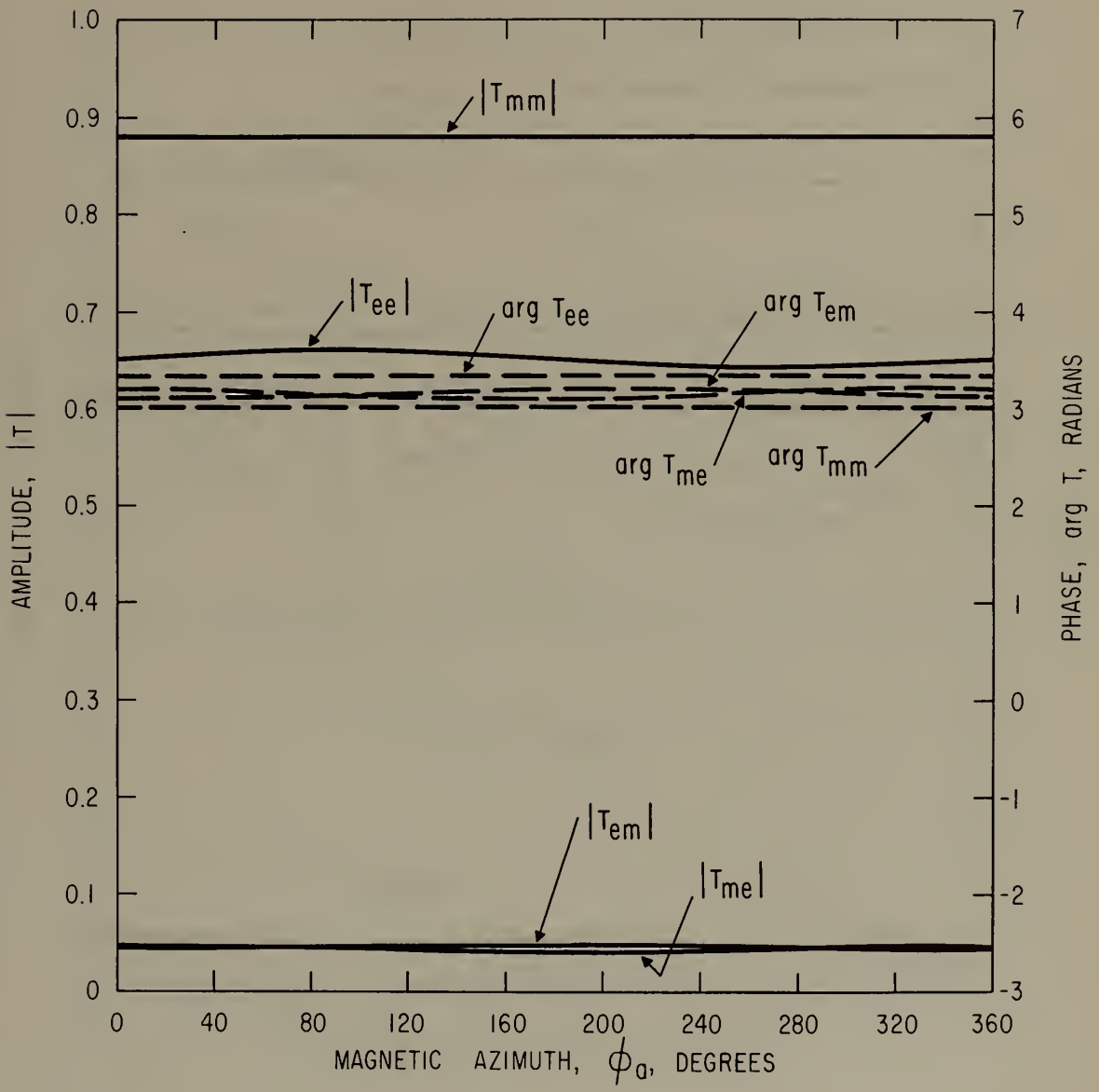

Fig. 6 - Model ionosphere reflection coefficients. $N = 10^3$, $\nu = 2\ (10^7)$, $\phi_i = 82^o$, $H_m = 0.5$, $I = 84.270^o$, f = 10 kc.

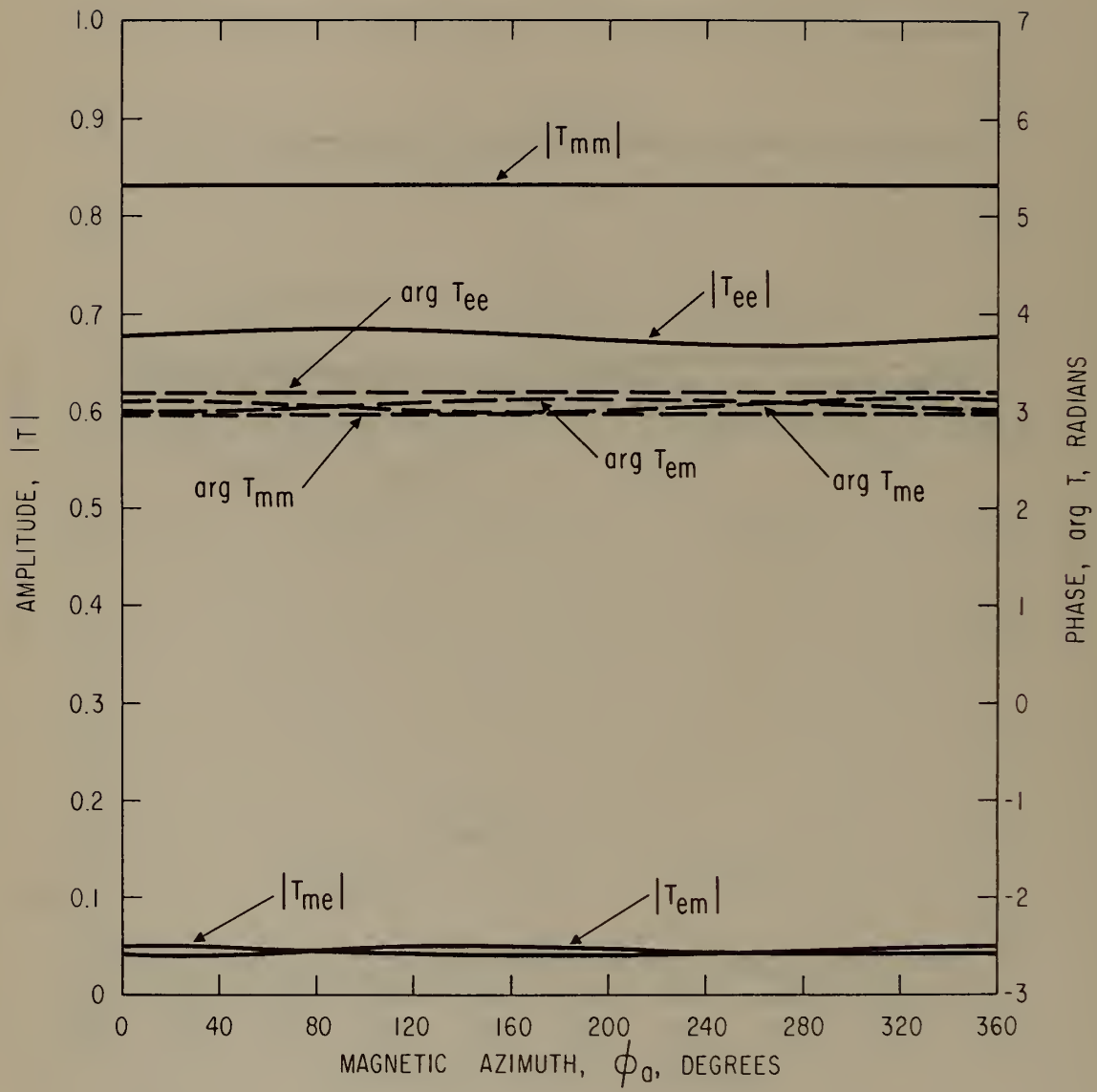

Fig. 7 - Model ionosphere reflection coefficients. $N = 10^3$, $\nu = 2\ (10^7)$, $\phi_i = 82^o$, $H_m = 0.5$, $I = 84.270^o$, $f = 20$ kc.

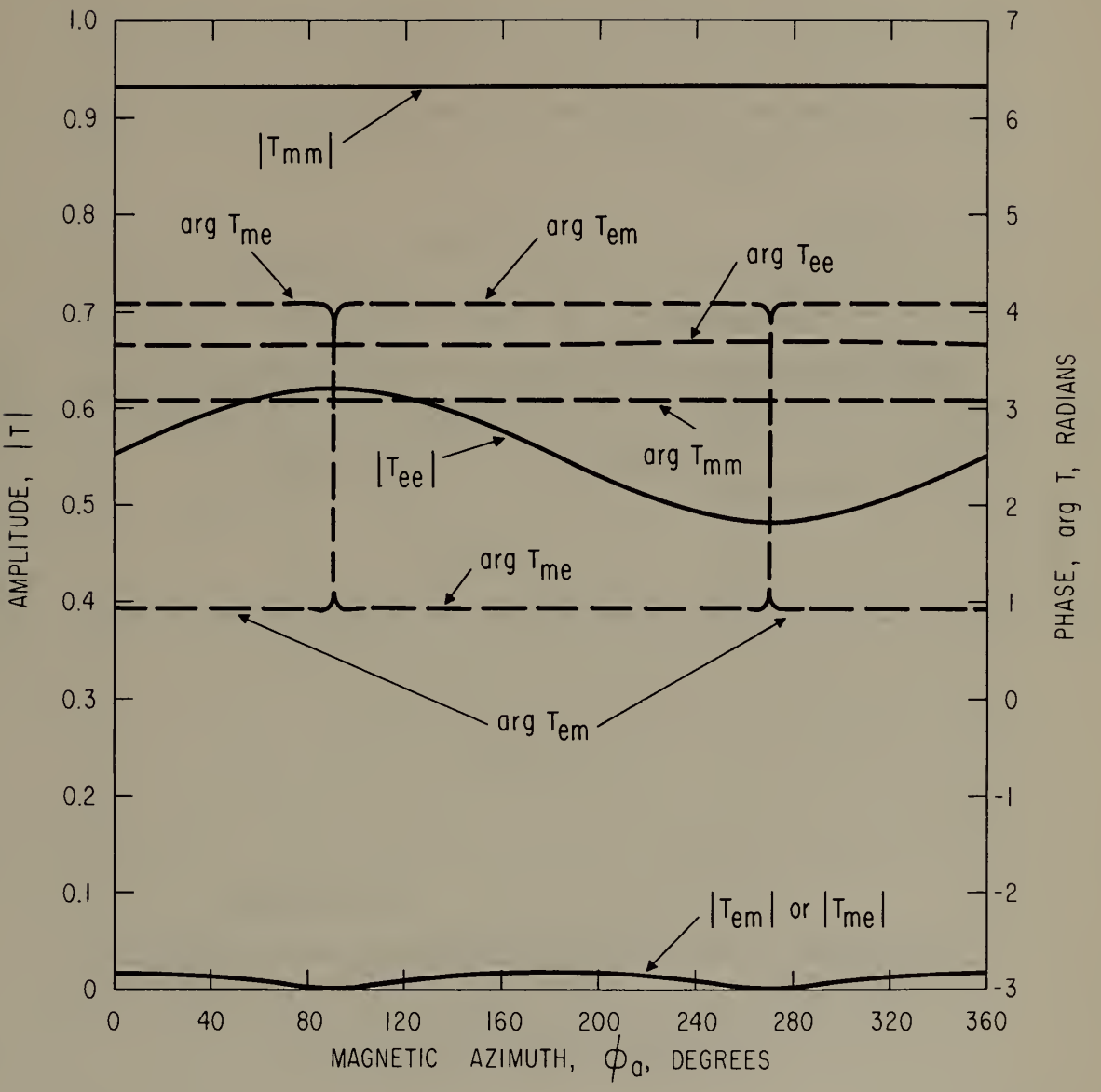

Fig. 8 - Model ionosphere reflection coefficients. $N = 3(10^3)$, $\nu = 2(10^7)$, $\phi_i = 82^o$, $H_m = 0.5$, $I = 0$, $f = 10$ kc.

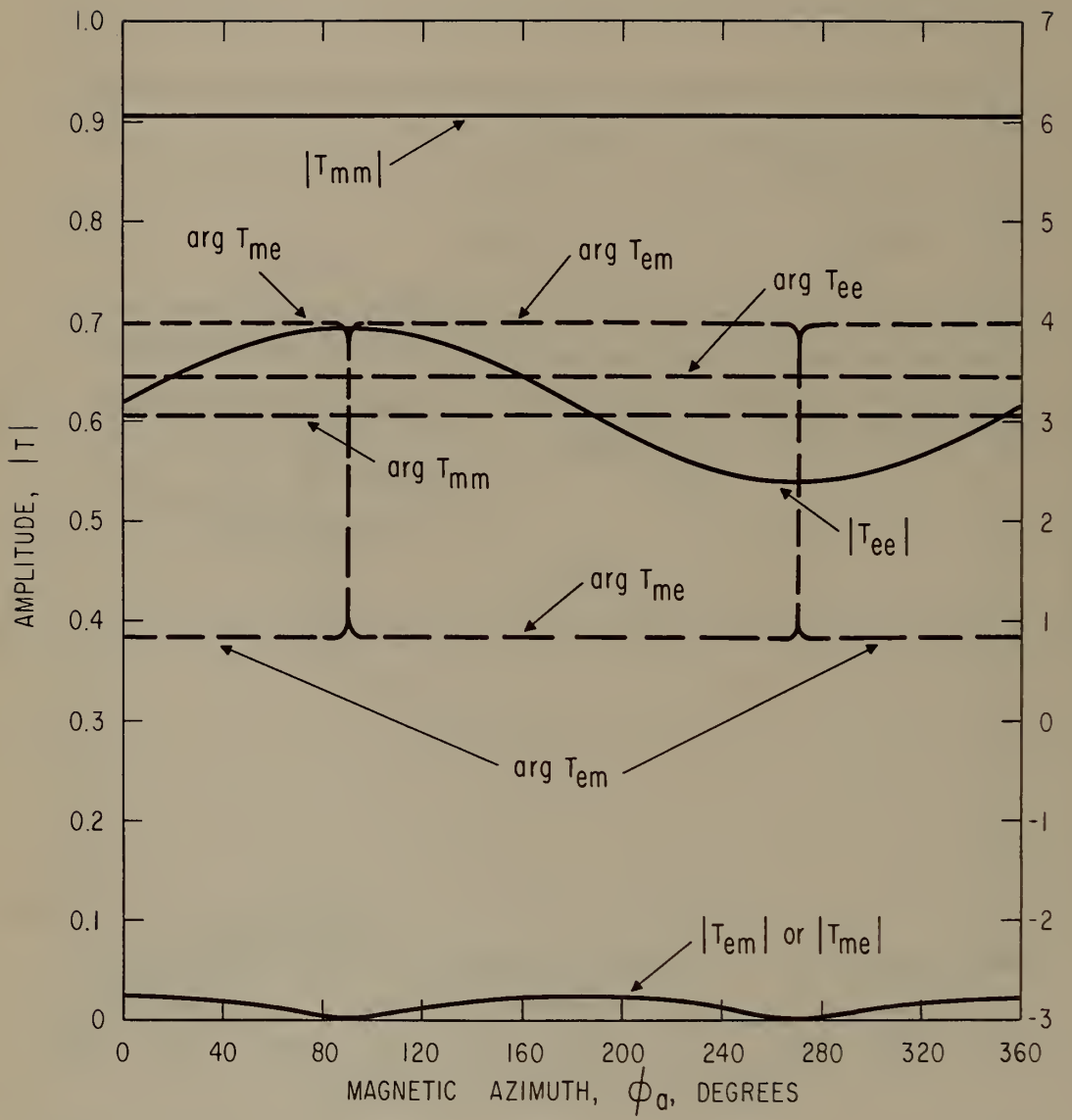

Fig. 9 - Model ionosphere reflection coefficients. $N = 3(10^3)$, $\nu = 2(10^7)$, $\phi_i = 82^o$, $H_m = 0.5$, $I = 0$, f = 20 kc.

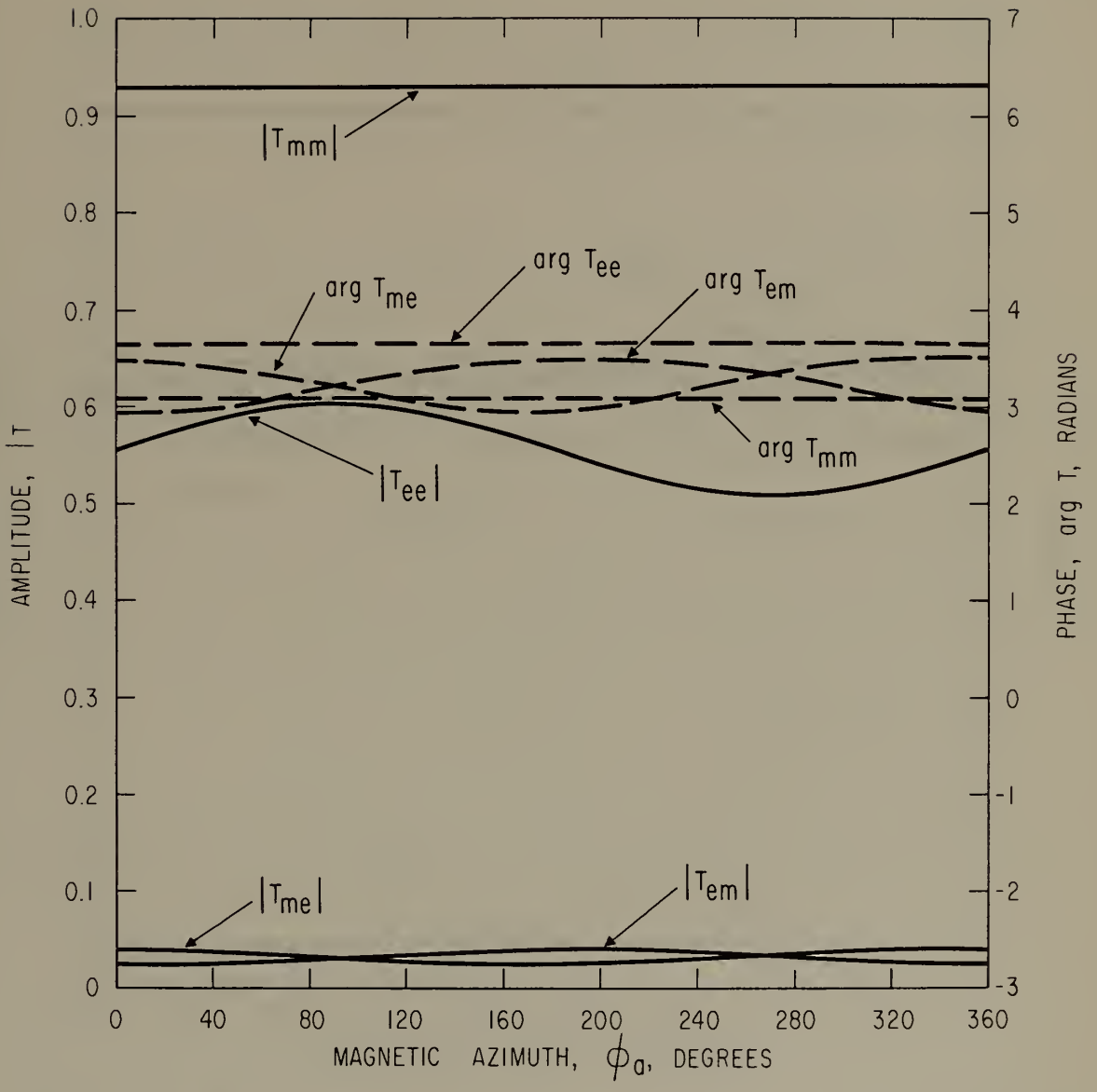

Fig. 10 - Model ionosphere reflection coefficients. $N = 3(10^3)$, $\nu = 2(10^7)$, $\phi_i = 82^\circ$, $H_m = 0.5$, I = 45°, f = 10 kc.

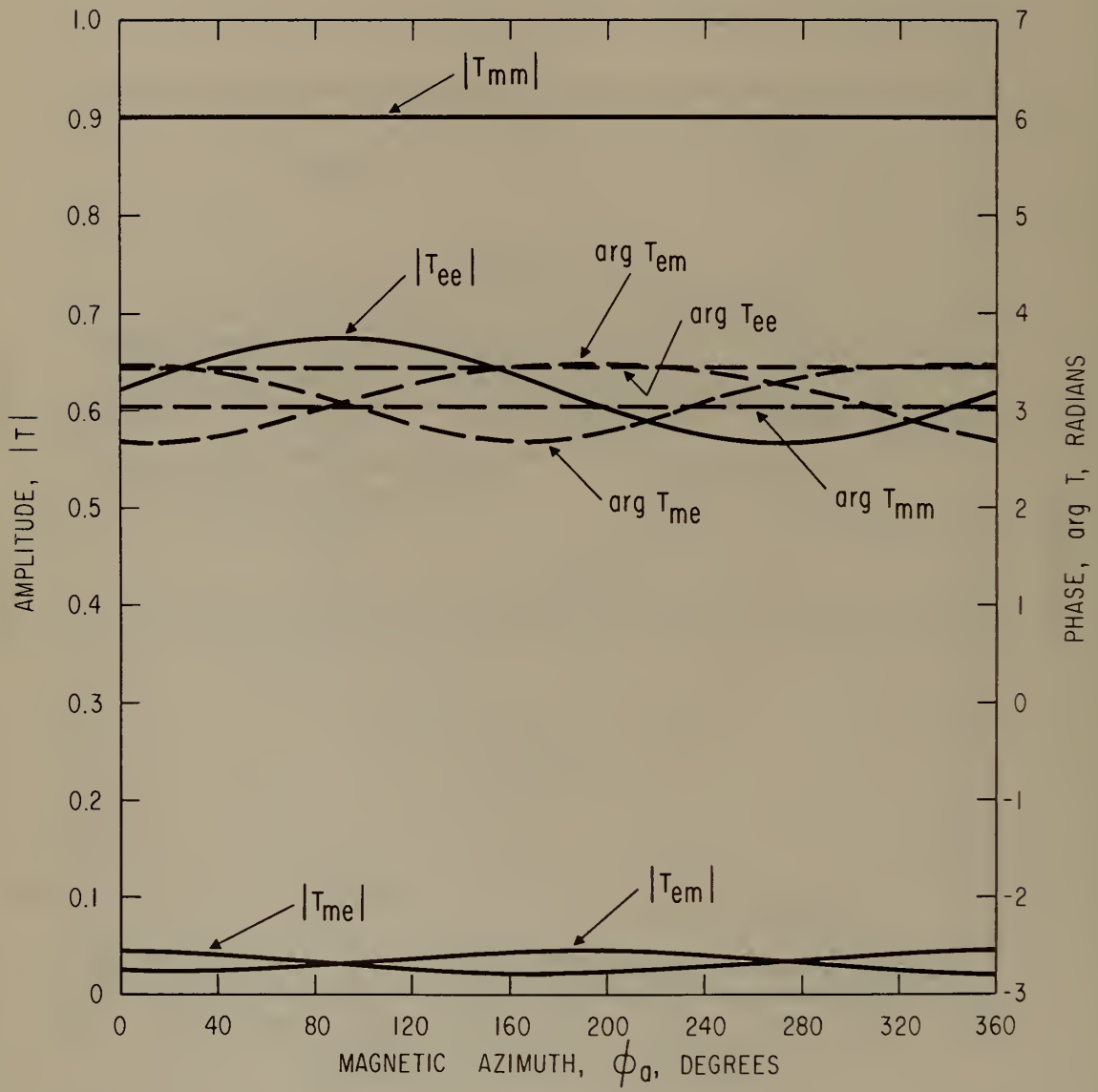

Fig. 11 - Model ionosphere reflection coefficients. $N = 3(10^3)$, $\nu = 2(10^7)$, $\phi_i = 82^\circ$, $H_m = 0.5$, $I = 45^\circ$, f = 20 kc.

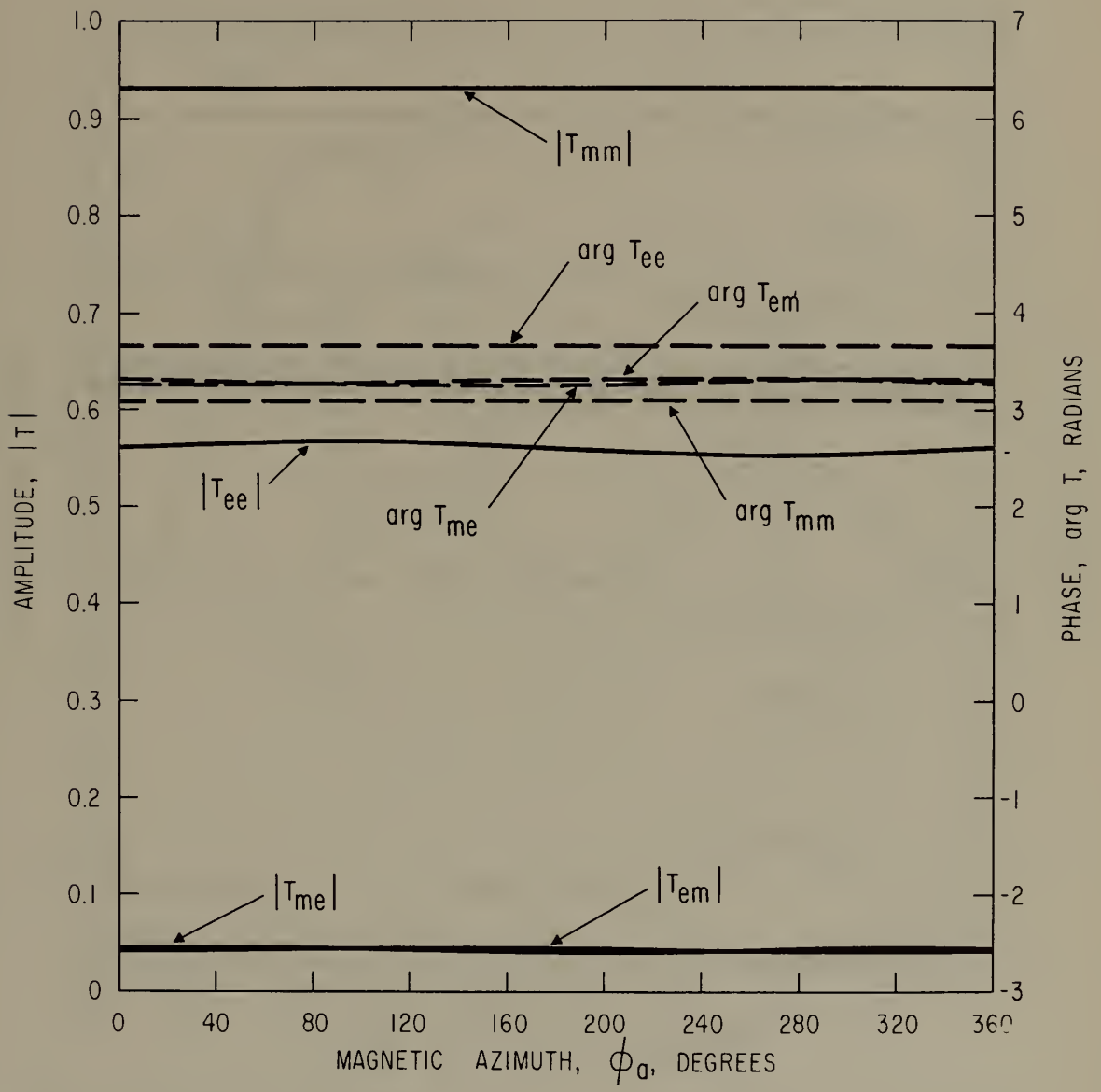

Fig. 12 - Model ionosphere reflection coefficients. $N = 3(10^3)$, $\nu = 2(10^7)$, $\phi_i = 82^\circ$, $H_m = 0.5$, $I = 84.270^\circ$, $f = 10$ kc.

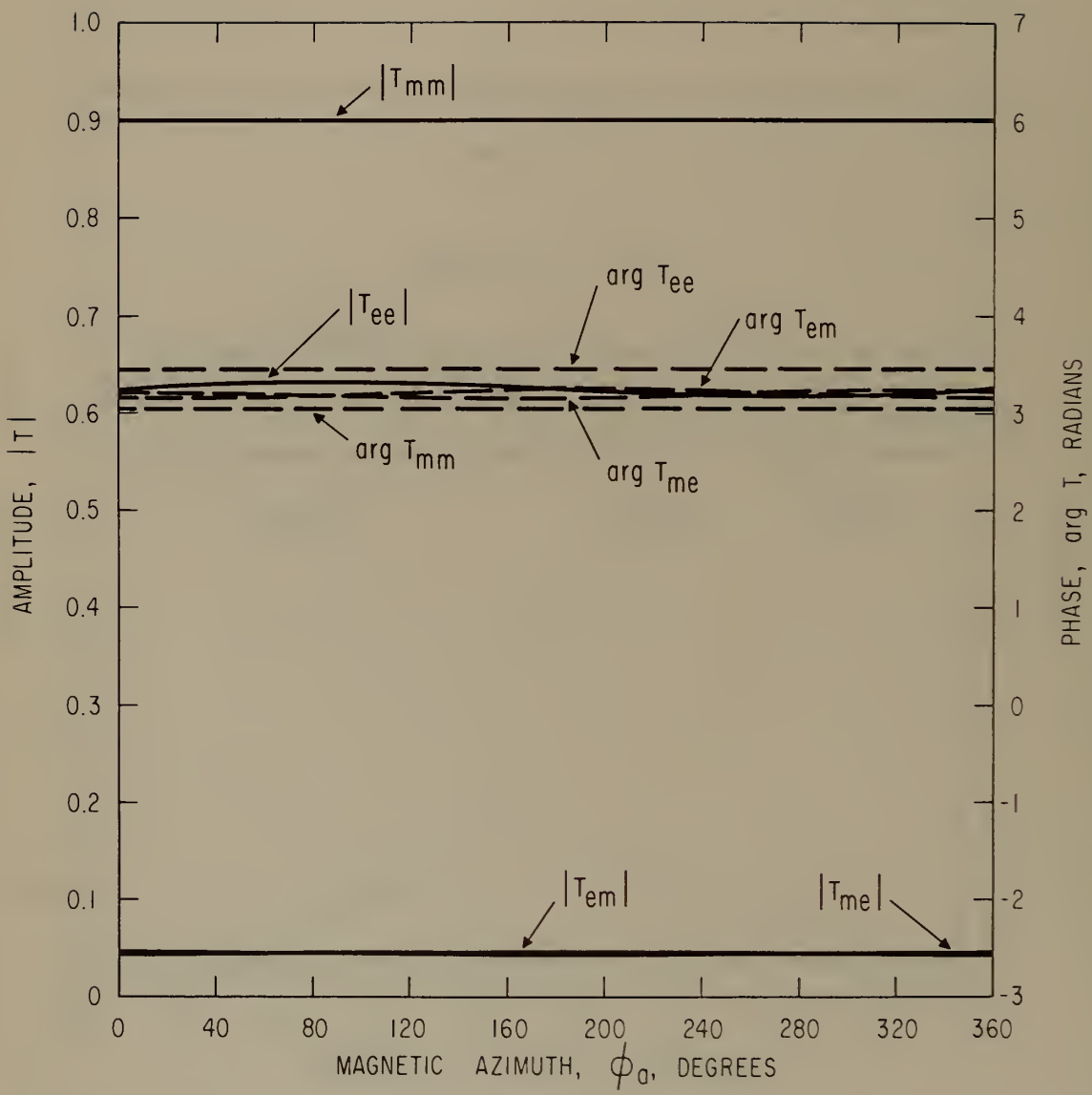

Fig. 13 - Model ionosphere reflection coefficients. $N = 3(10^3)$, $\nu = 2(10^7)$, $\phi_i = 82^\circ$, $H_m = 0.5$, $I = 84.270^\circ$, f = 20 kc.

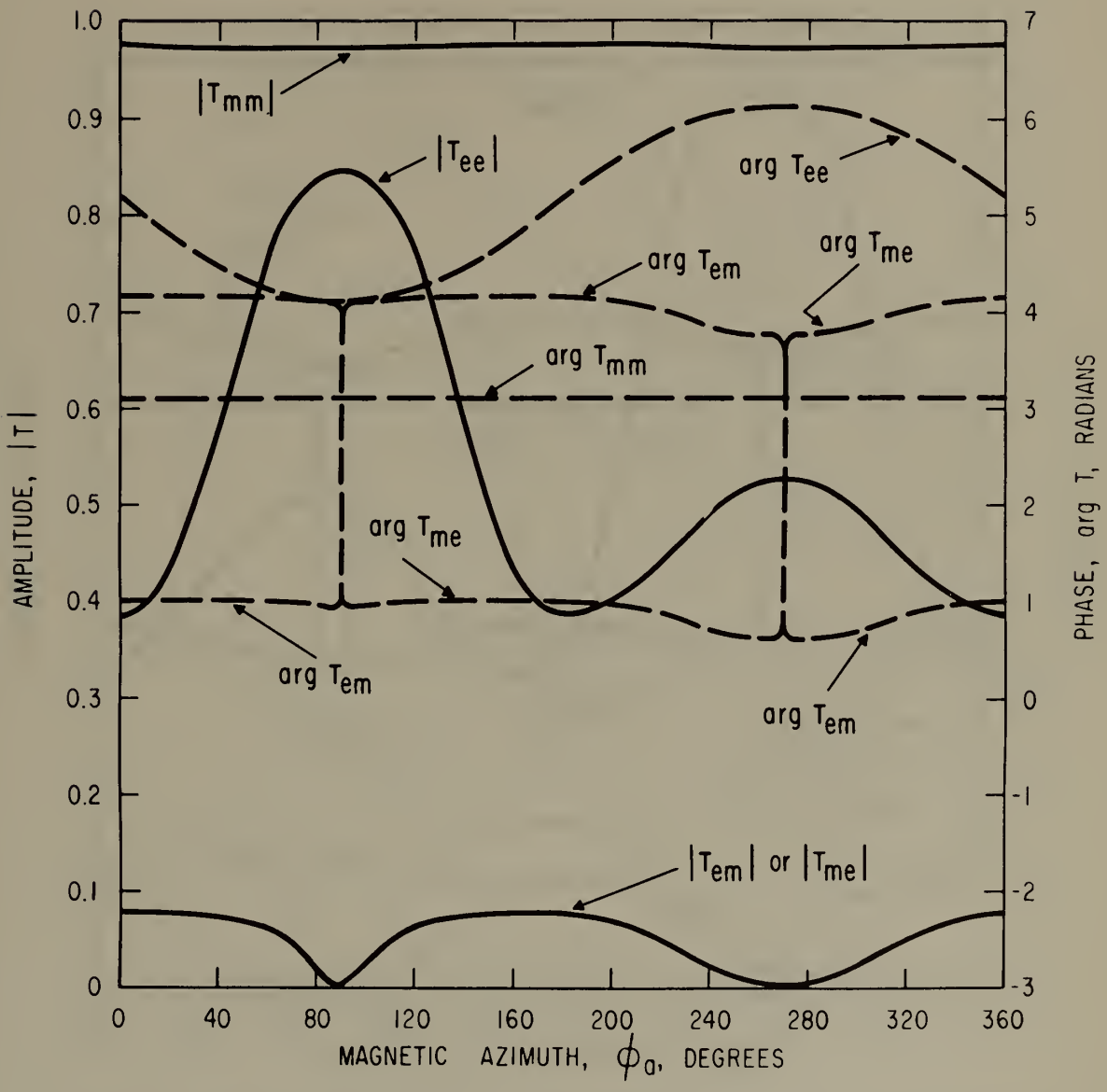

Fig. 14 - Model ionosphere reflection coefficients. $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^\circ$, $H_m = 0.5$, $I = 0$, $f = 10$ kc.

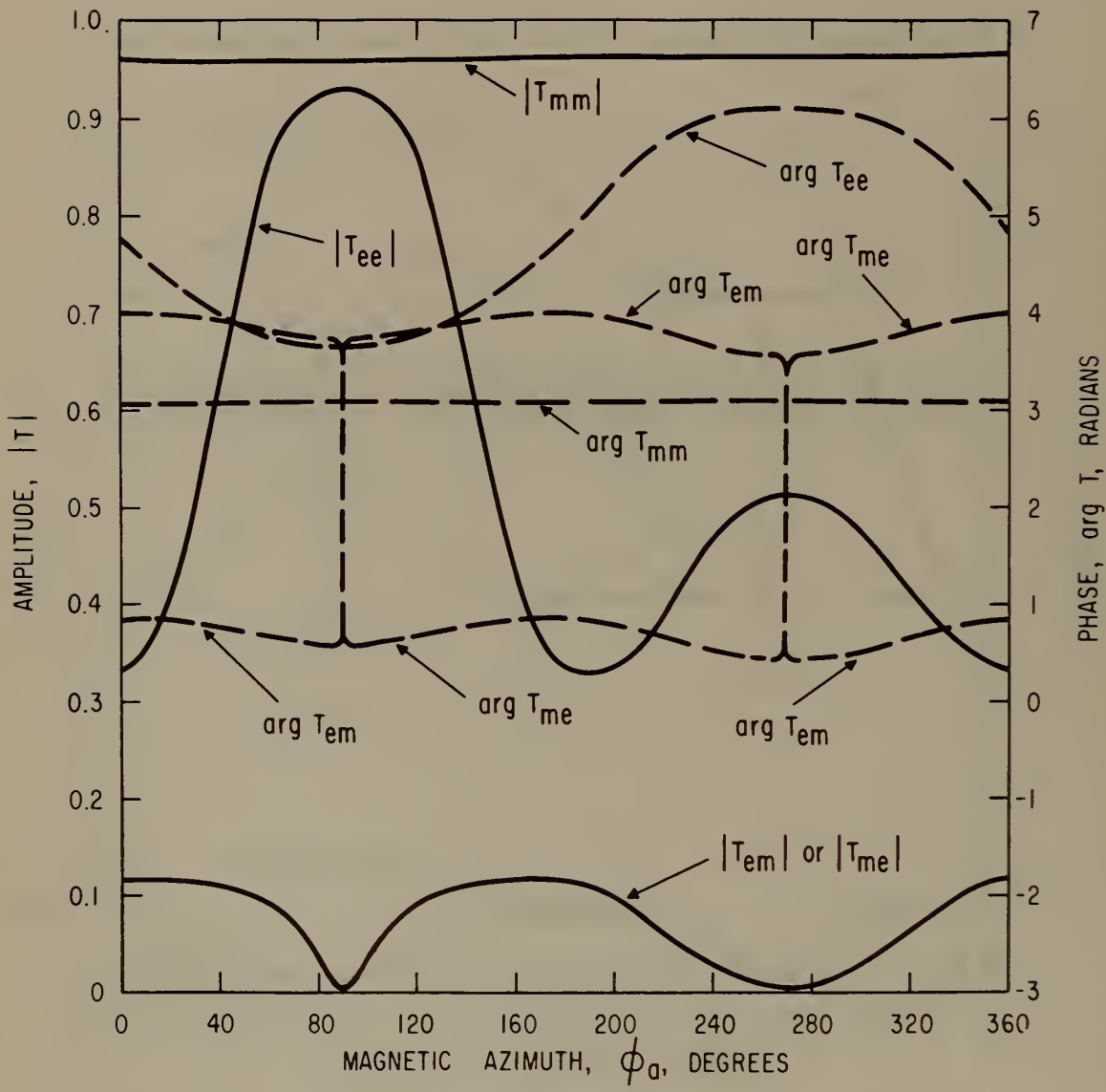

Fig. 15 - Model ionosphere reflection coefficients. $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^o$, $H_m = 0.5$, $I = 0$, f = 20 kc.

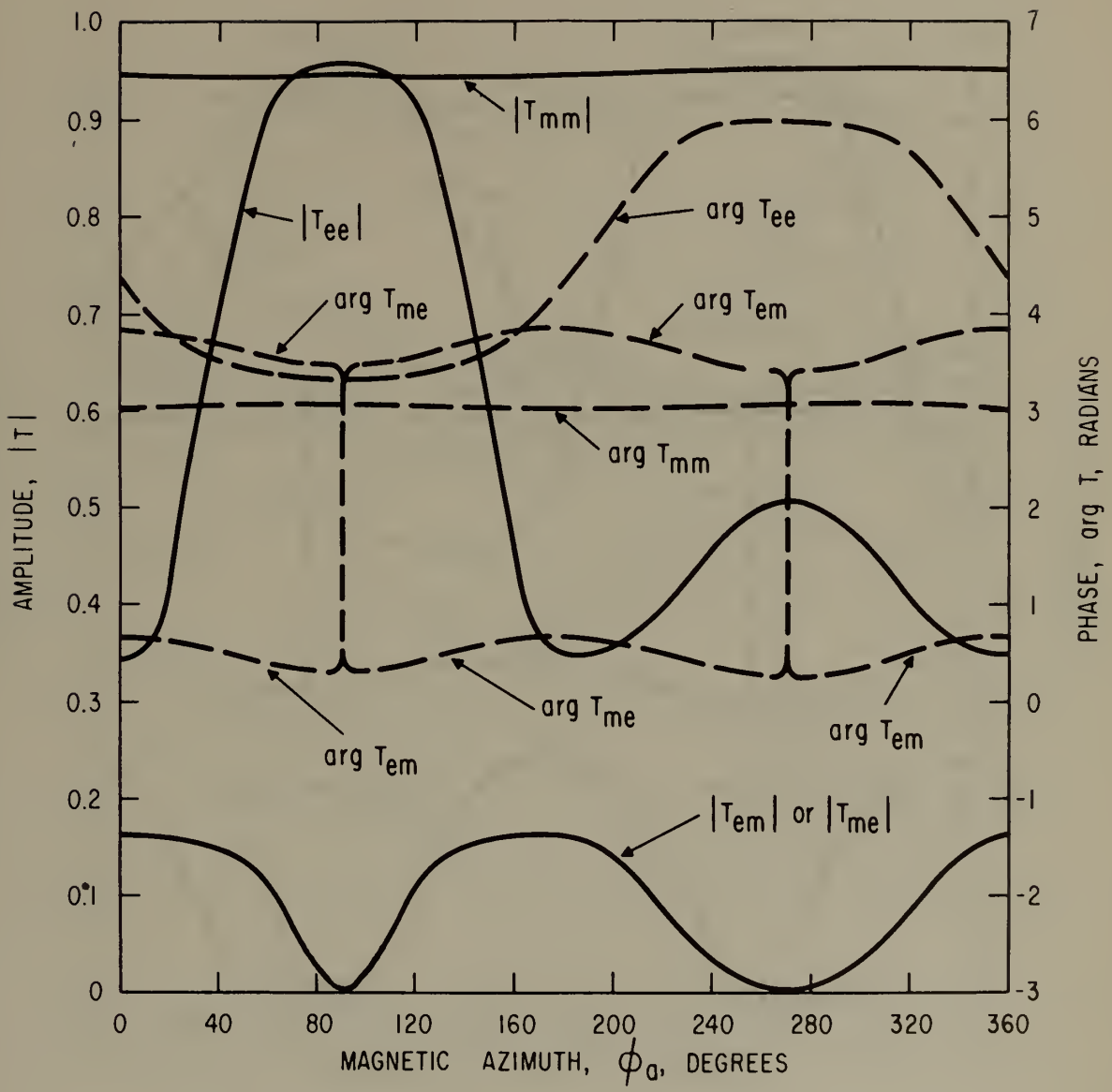

Fig. 16 - Model ionosphere reflection coefficients. $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^\circ$, $H_m = 0.5$, $I = 0$, f = 40 kc.

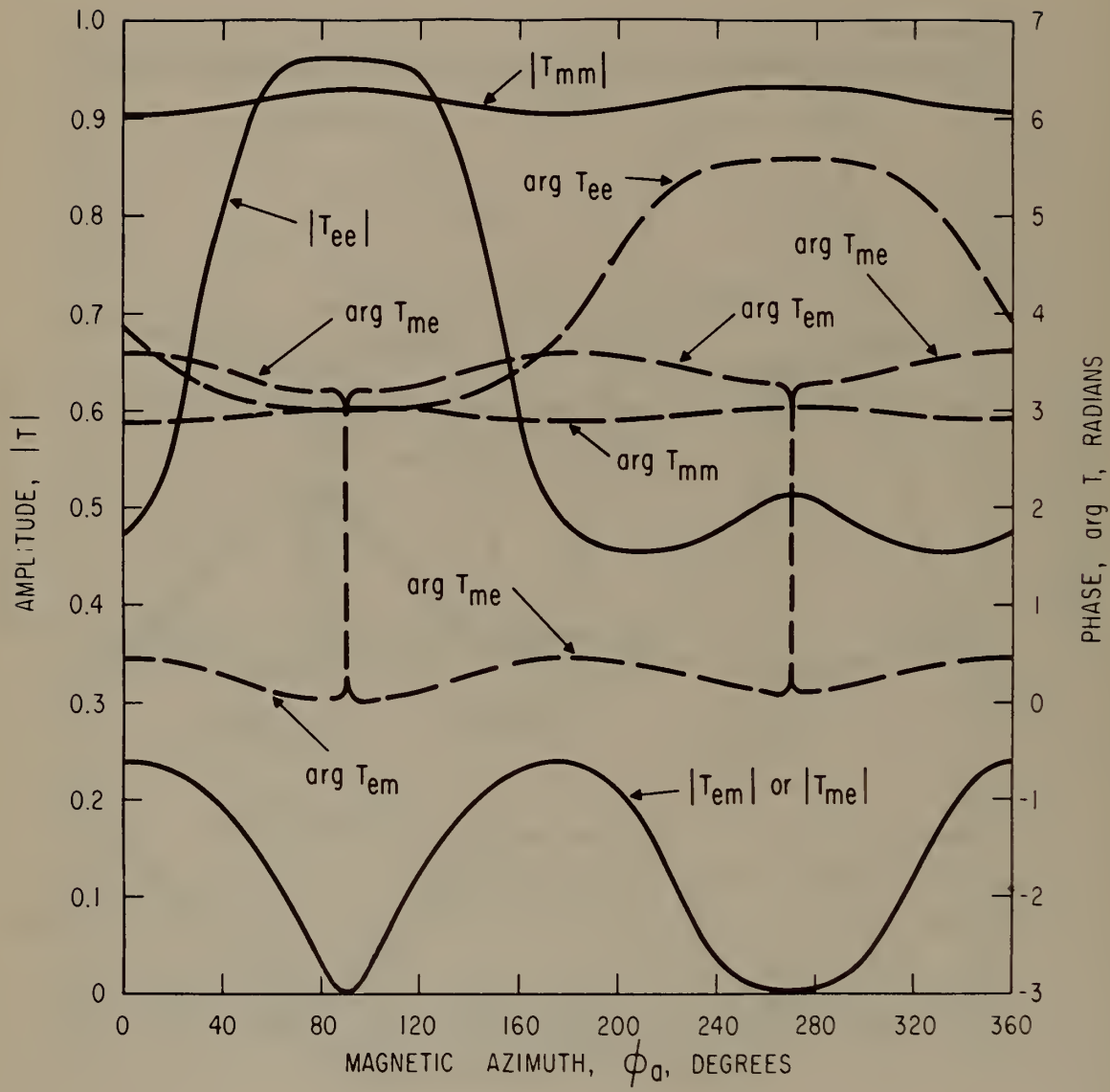

Fig. 17 - Model ionosphere reflection coefficients. $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^\circ$, $H_m = 0.5$, $I = 0$, f = 100 kc.

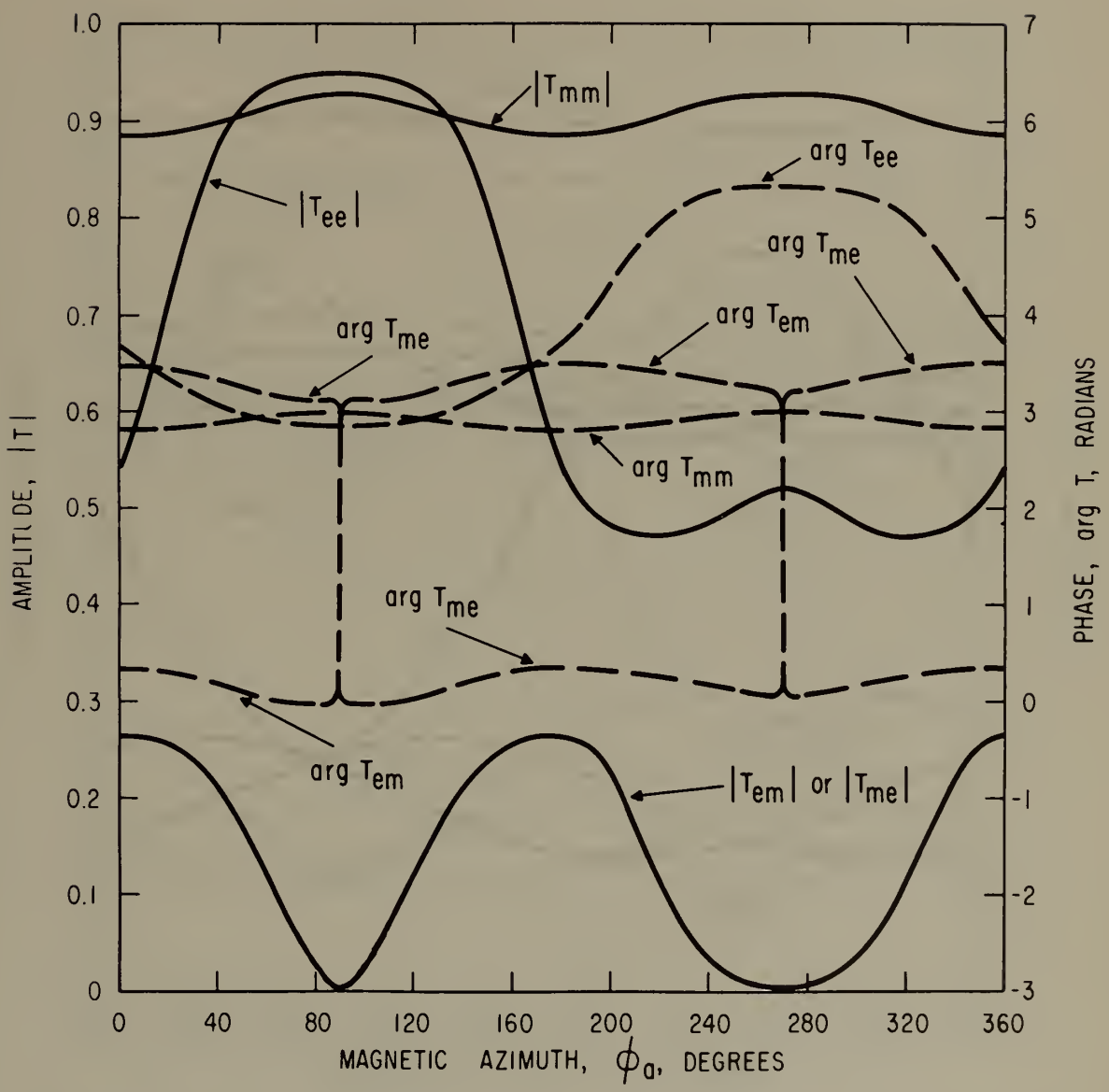

Fig. 18 - Model ionosphere reflection coefficients. $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^\circ$, $H_m = 0.5$, $I = 0$, f = 135 kc.

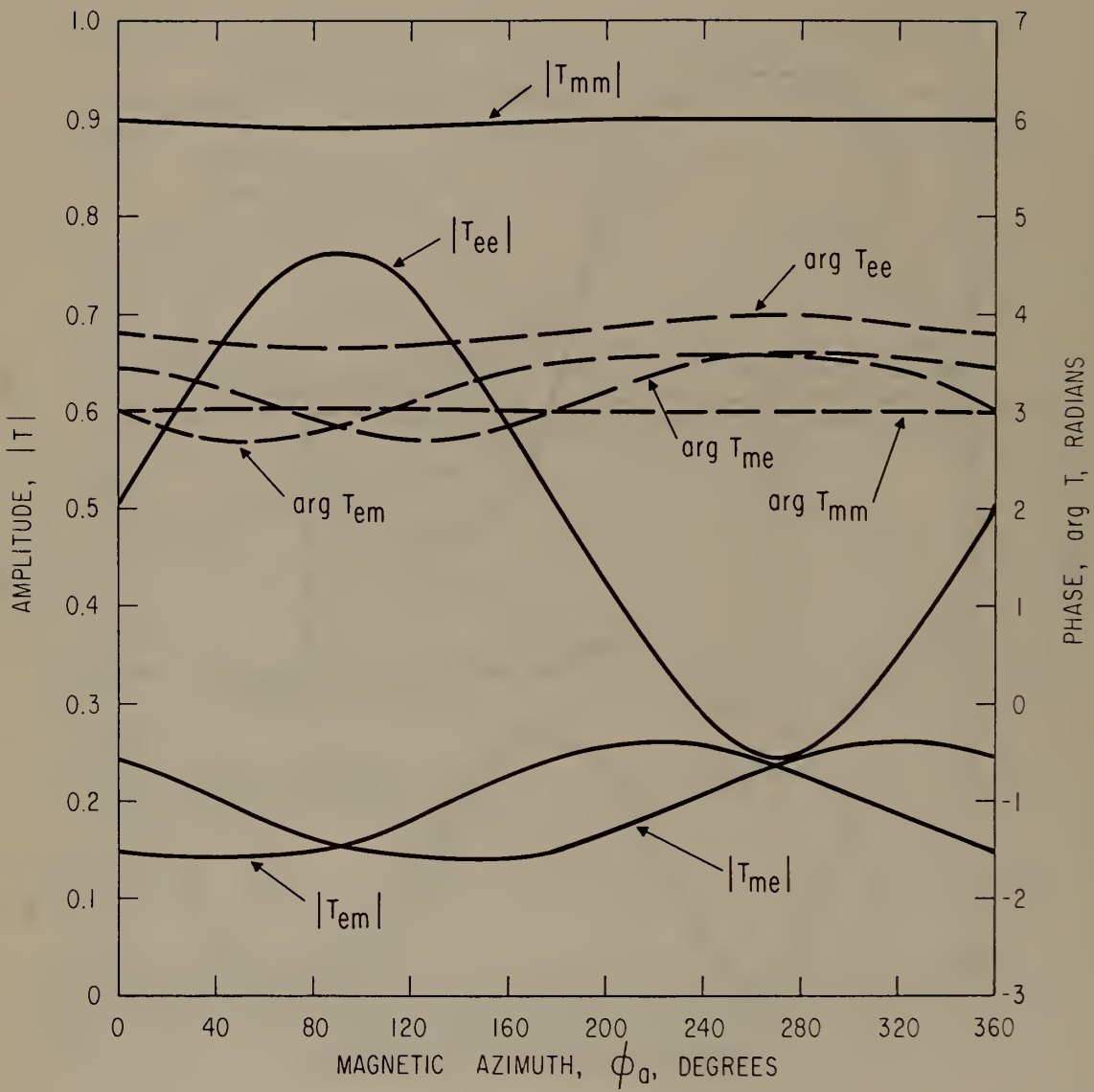

Fig. 19 - Model ionosphere reflection coefficients, $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^o$, $H_m = 0.5$, $I = 45^o$, $f = 20$ kc.

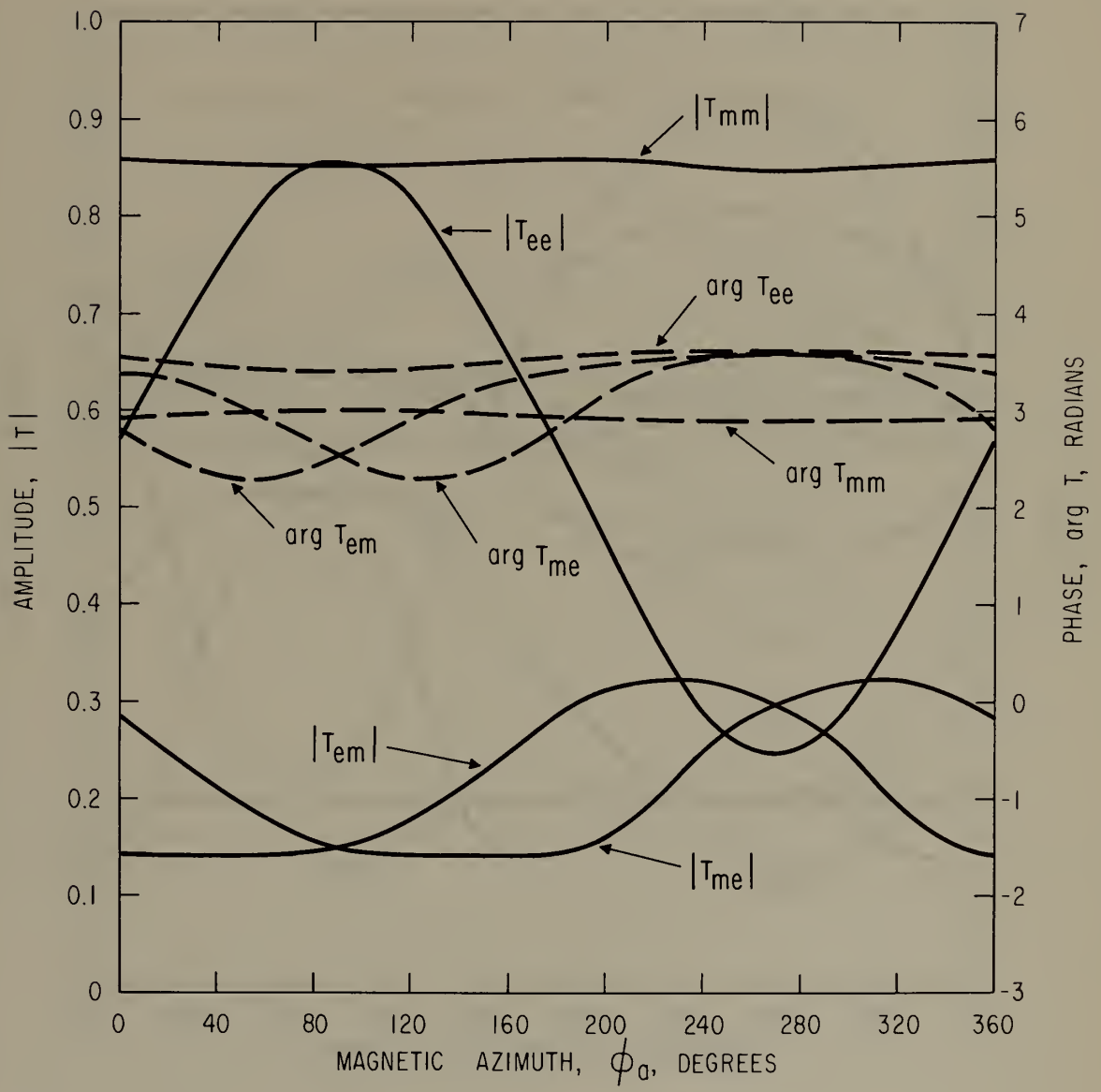

Fig. 20 - Model ionosphere reflection coefficients, $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^\circ$, $H_m = 0.5$, $I = 45^\circ$, f = 40 kc.

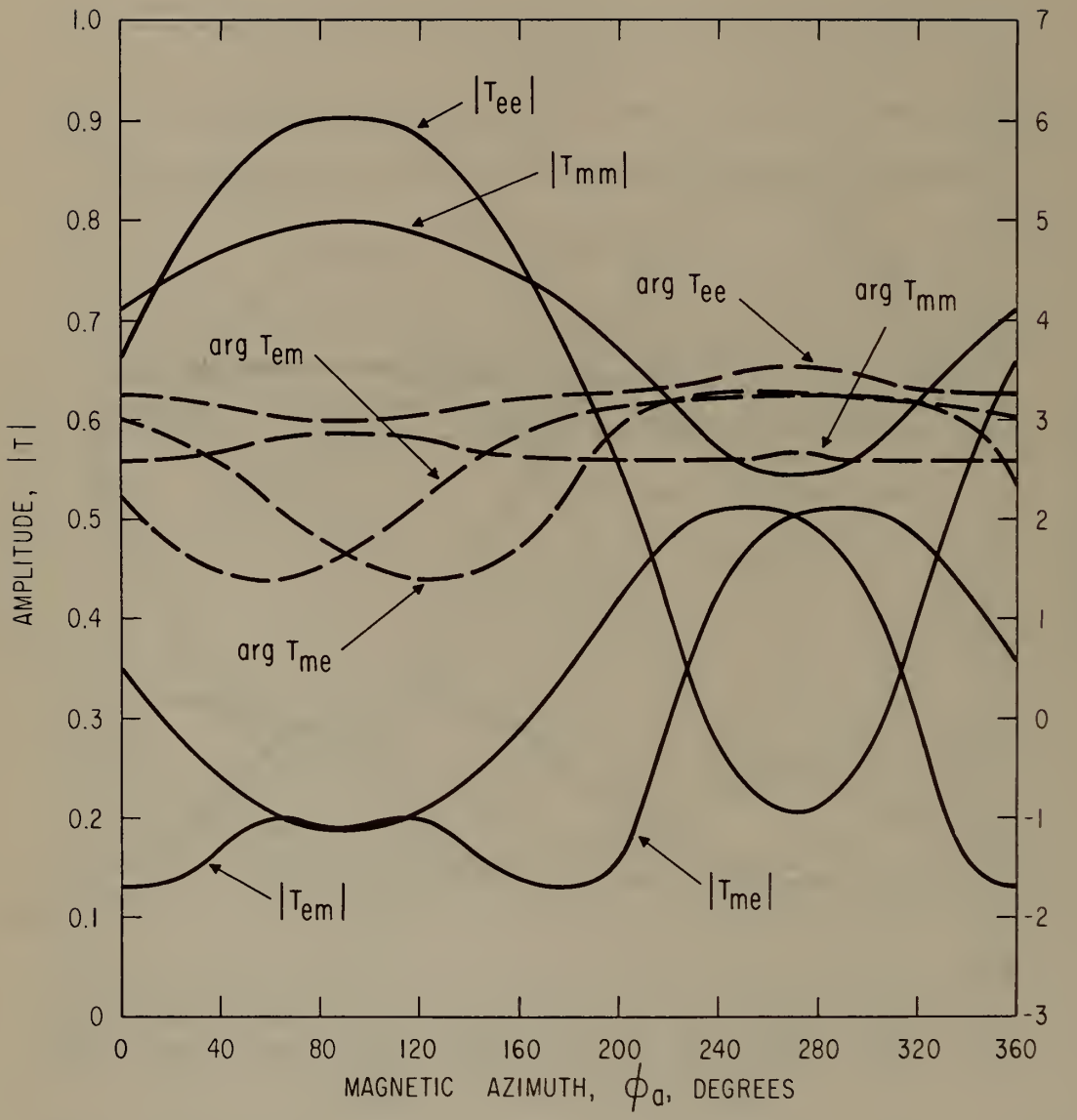

Fig. 21 - Model ionosphere reflection coefficients, $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^\circ$, $H_m = 0.5$, $I = 45^\circ$, f = 135 kc.

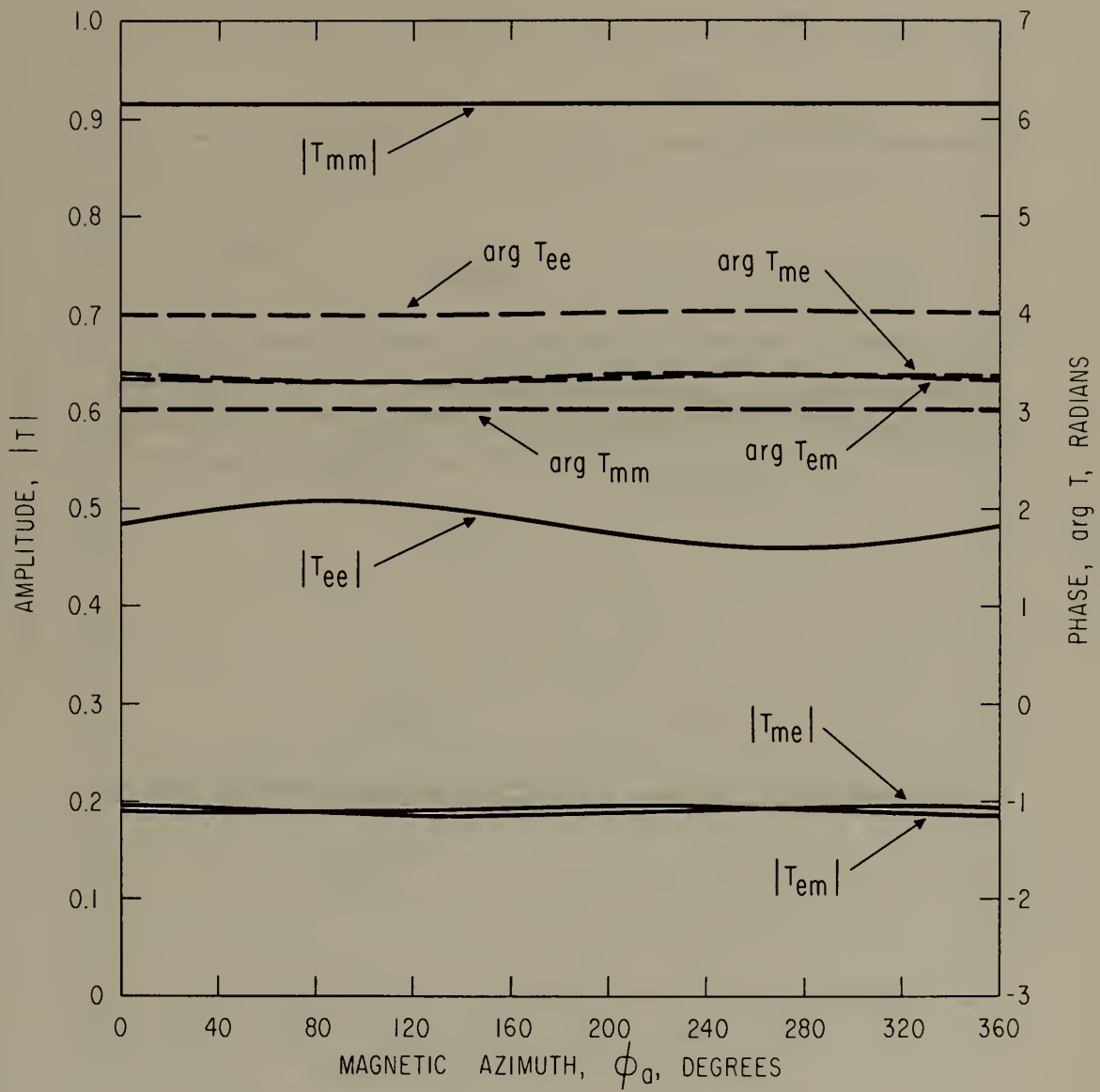

Fig. 22 - Model ionosphere reflection coefficients. $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^\circ$, $H_m = 0.5$, I = 84.270°, f = 10 kc.

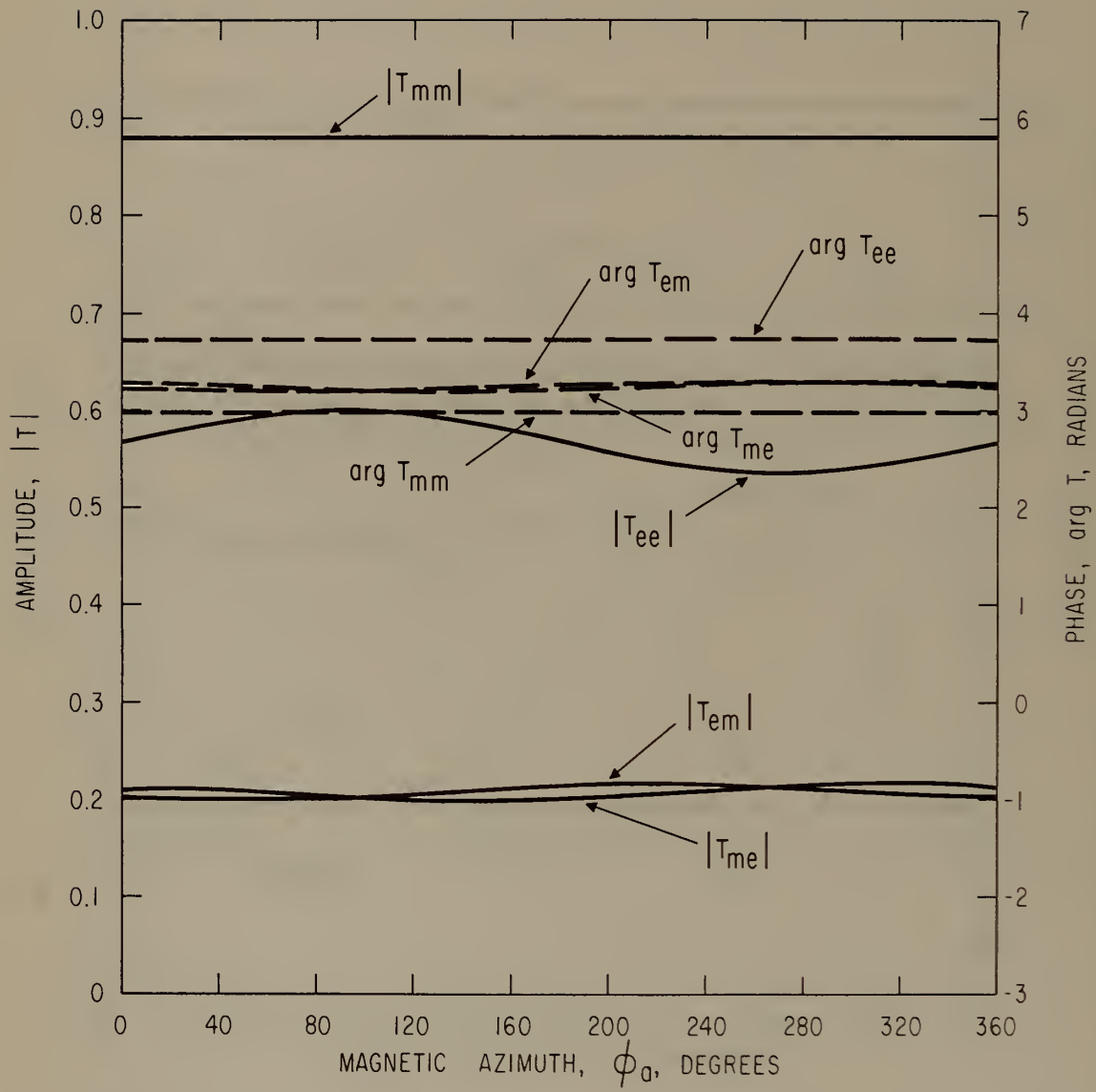

Fig. 23 - Model ionosphere reflection coefficients. $N_o = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^o$, $H_m = 0.5$, $I = 84.270^o$, f = 20 kc.

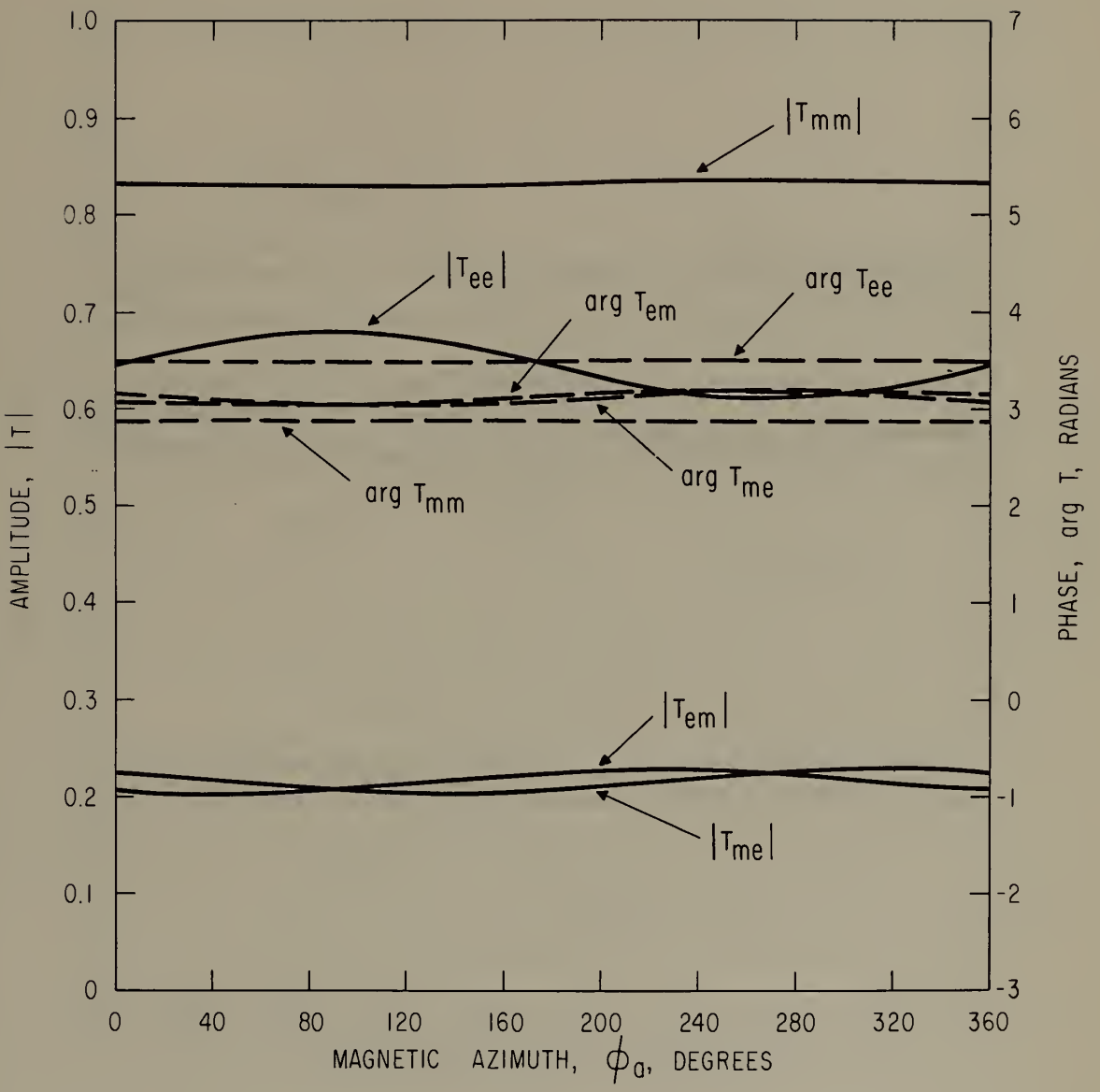

Fig. 24 - Model ionosphere reflection coefficients. $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^o$, $H_m = 0.5$, $I = 84.270^o$, f = 40 kc.

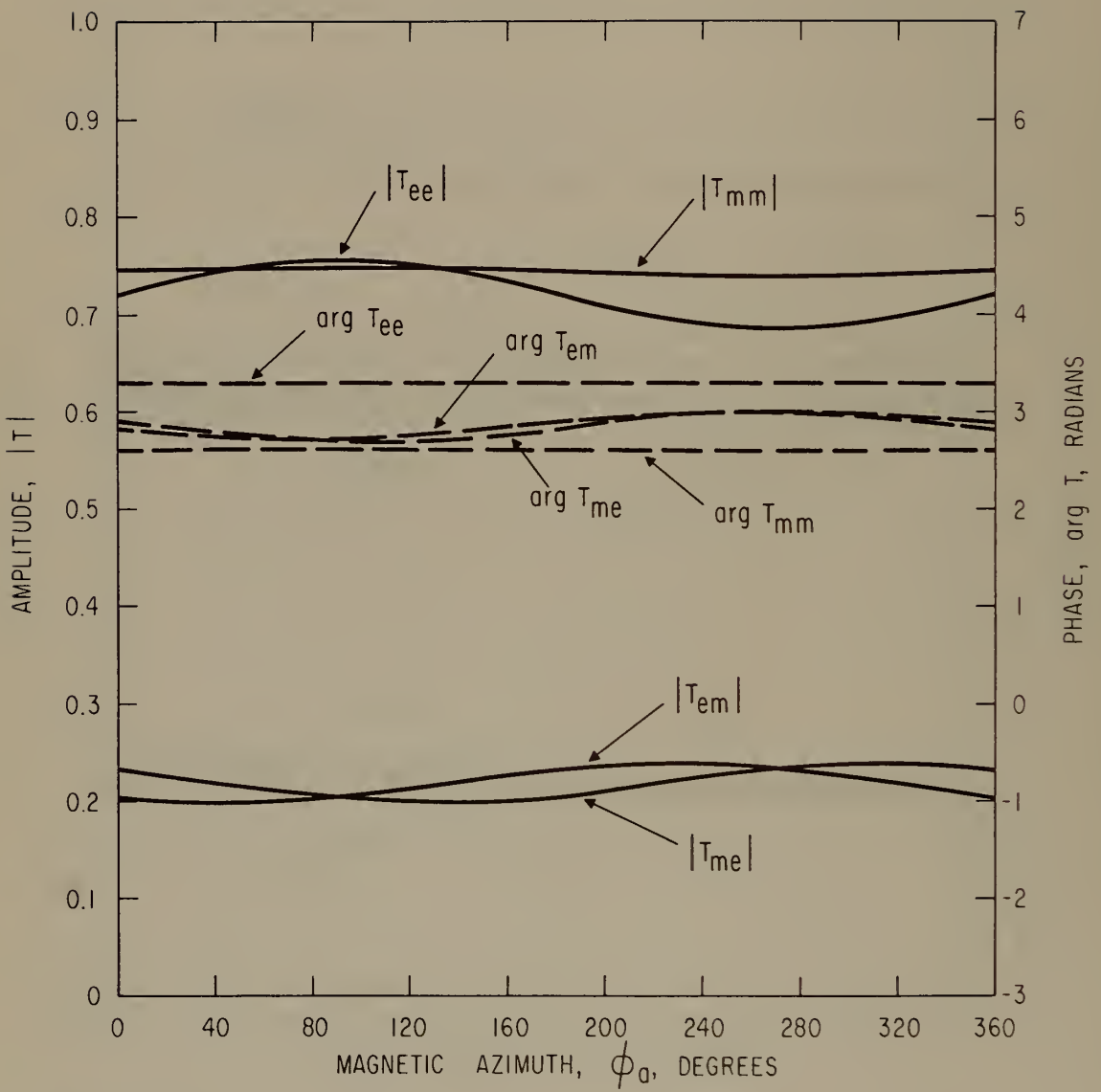

Fig. 25 - Model ionosphere reflection coefficients. $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^o$, $H_m = 0.5$, $I = 84.270^o$, f = 100 kc.

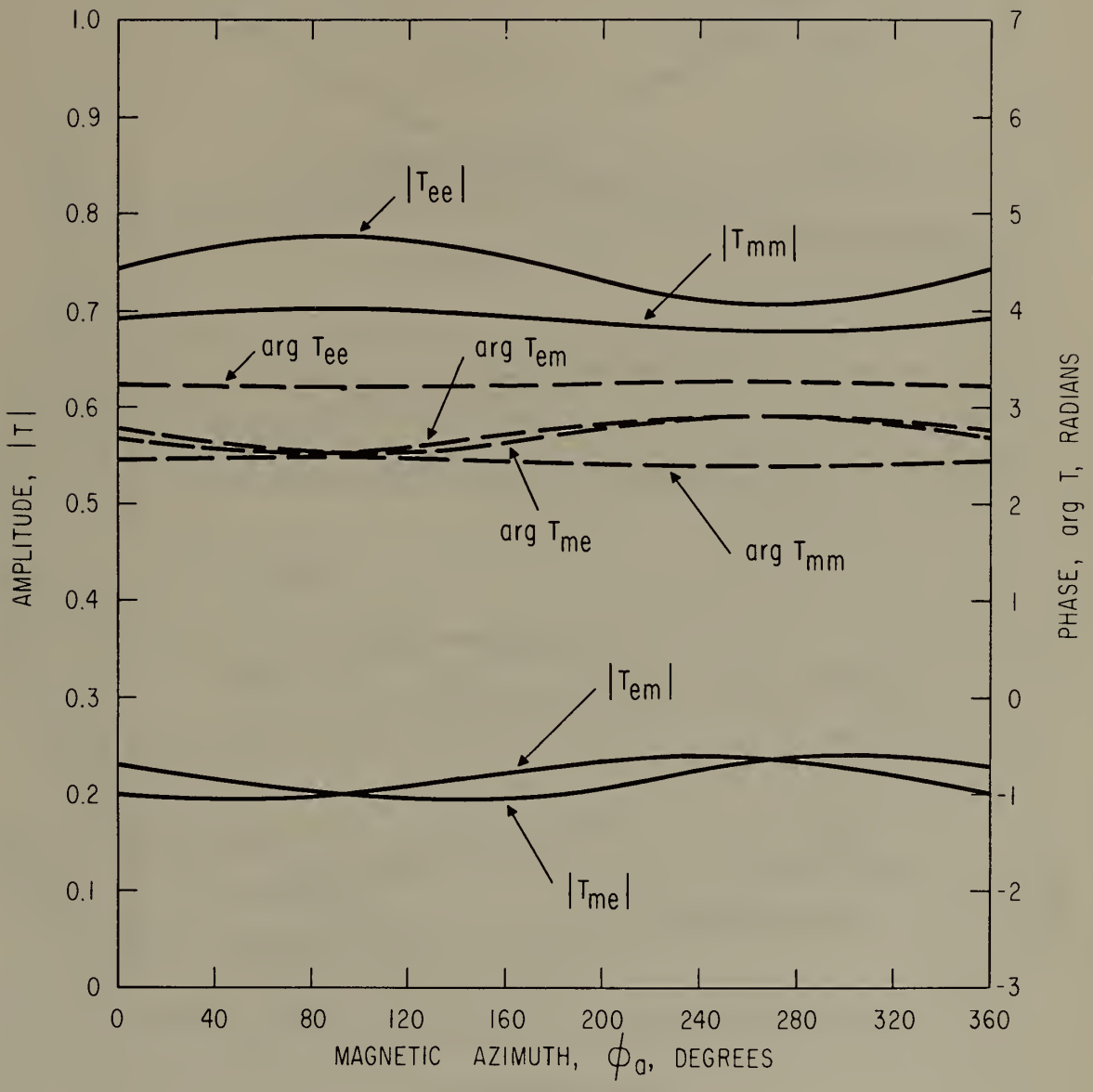

Fig. 26 - Model ionosphere reflection coefficients. $N = 1.2(10^3)$, $\nu = 10^6$, $\phi_i = 80.397^o$, $H_m = 0.5$, $I = 84.270^o$, f = 135 kc.

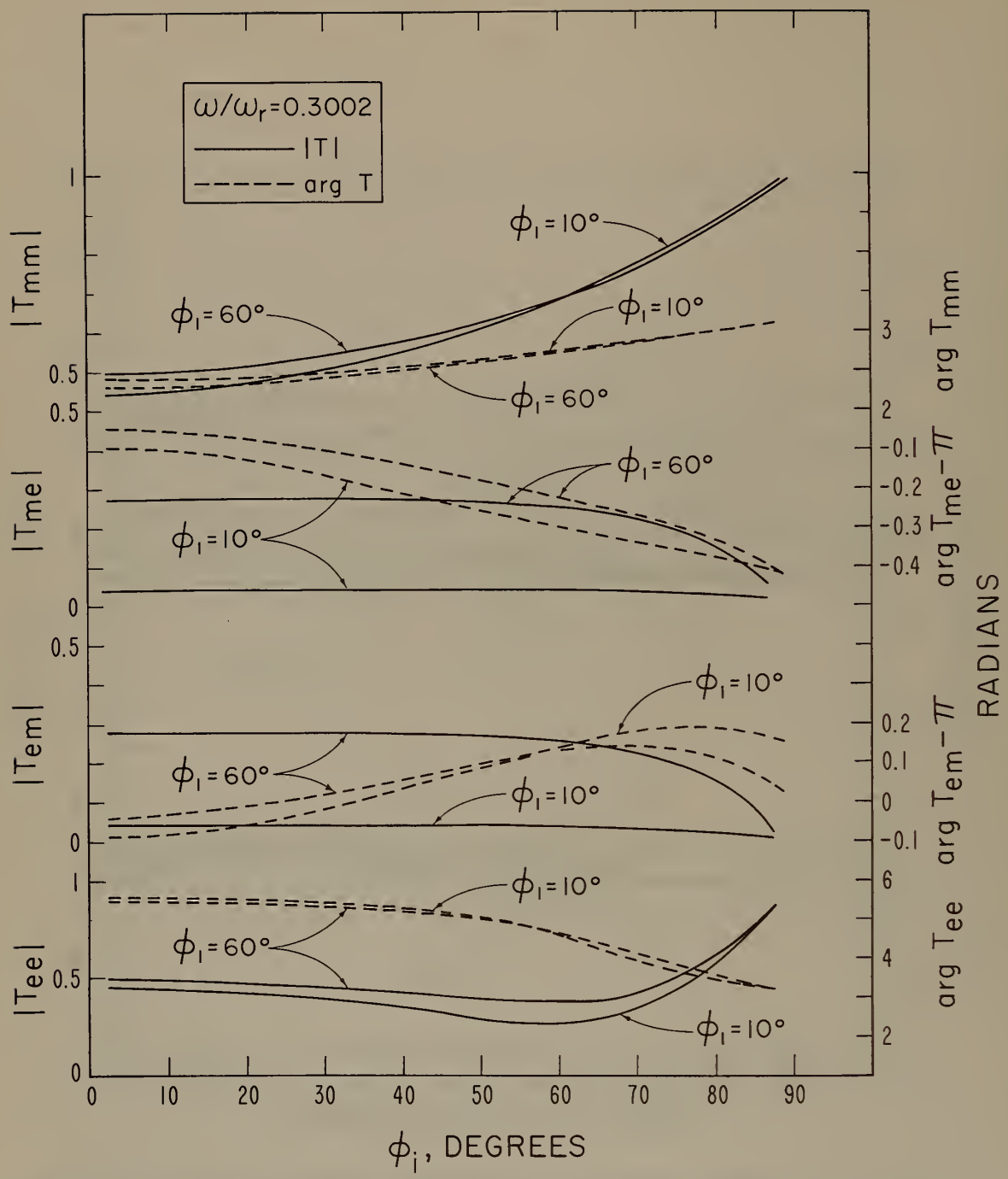

Fig. 27 - Model ionosphere reflection coefficients evaluated with the aid of the Q-L approximation, amplitude, $|T|$, and phase, arg T, as a function of angle of incidence, ϕ_i, for various values of the earth's magnetic intensity parameter, ϕ_1, $\omega/\omega_r = 0.3002$.

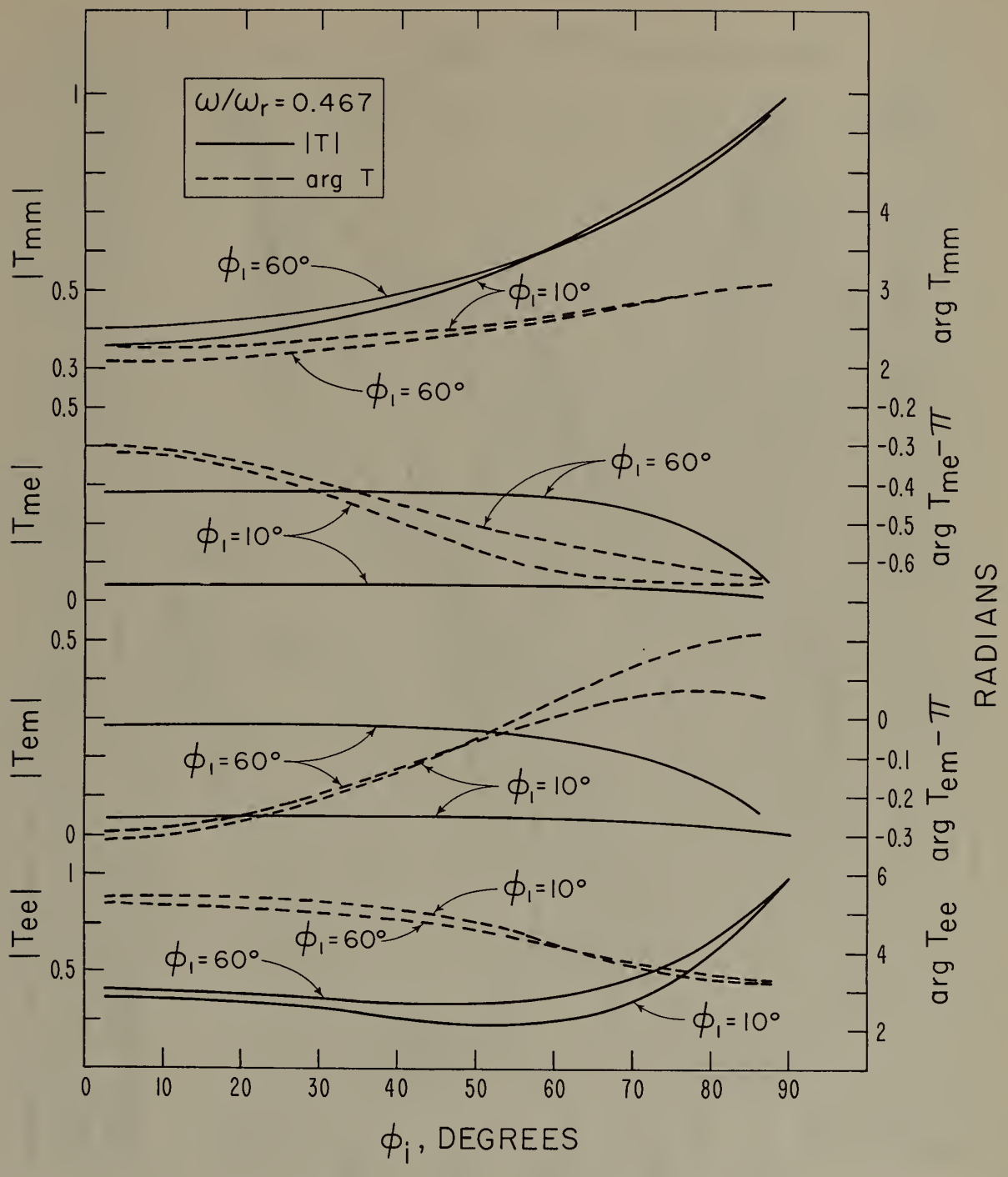

Fig. 28 - Model ionosphere reflection coefficients evaluated with the aid of the Q-L approximation, amplitude, $|T|$, and phase, arg T, as a function of angle of incidence, ϕ_i, for various values of the earth's magnetic intensity parameter, ϕ_1, $\omega/\omega_r = 0.467$.

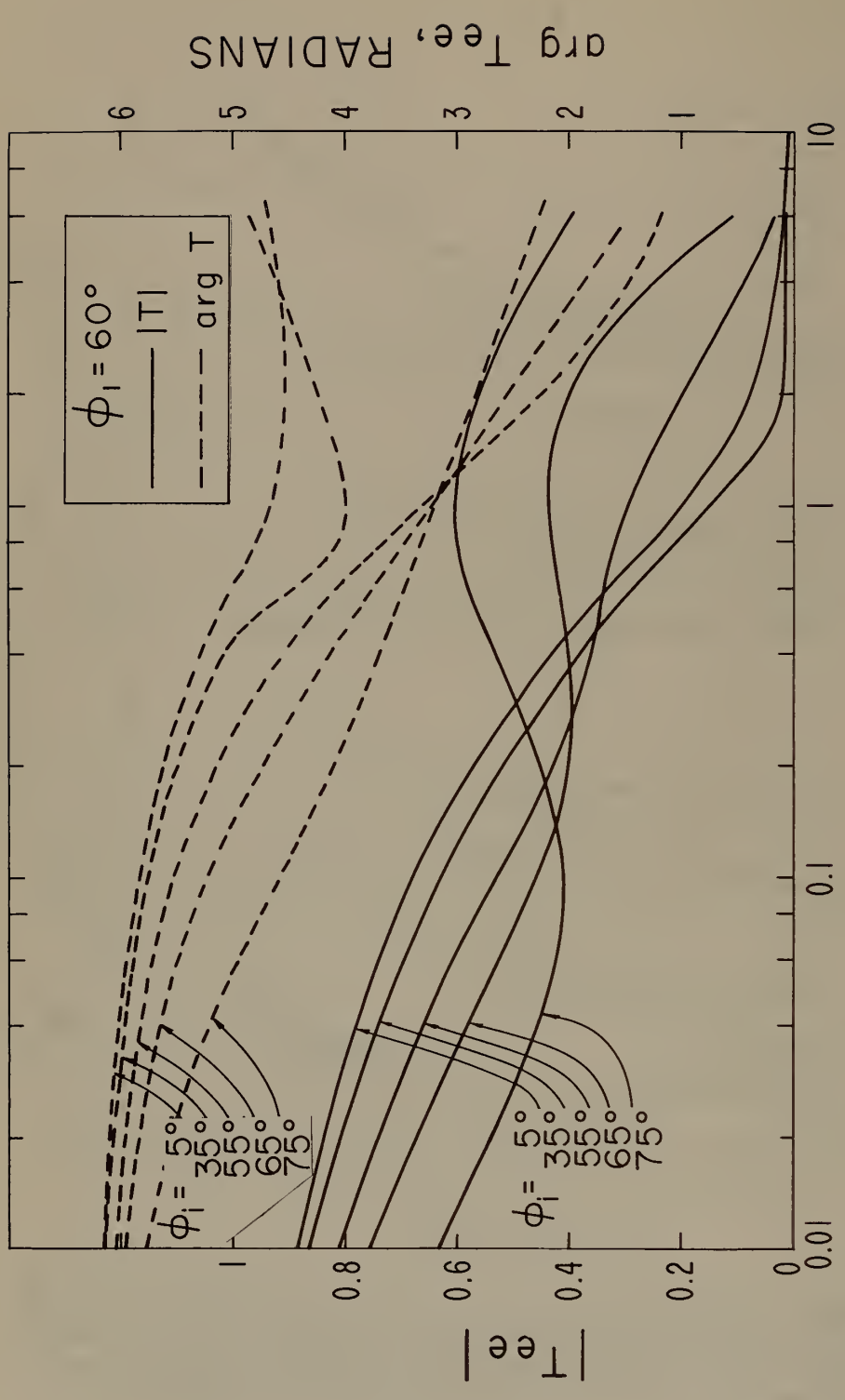

Fig. 29 - Model ionosphere reflection coefficients evaluated with the aid of the Q-L approximation, amplitude, $|T_{ee}|$, and phase, arg T_{ee}, as a function of the frequency parameter, ω/ω_r, for various values of the angle of incidence, ϕ_i, where the earth's magnetic field parameter, $\phi_l = 60^o$.

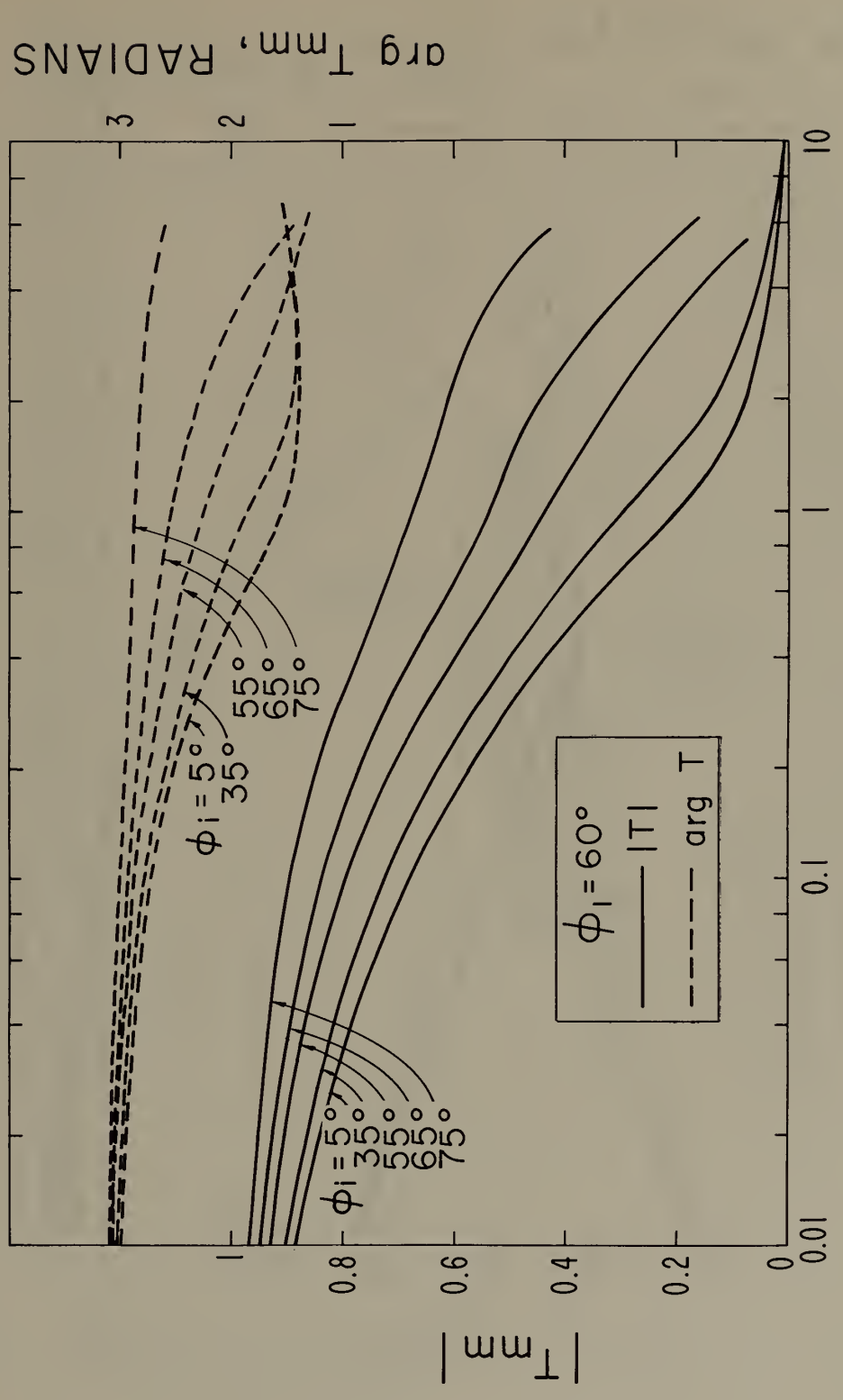

Fig. 30 - Model ionosphere reflection coefficients evaluated with the aid of the Q-L approximation, amplitude, $|T_{mm}|$, and phase, arg T_{mm}, as a function of the frequency parameter, ω/ω_r, for various values of the angle of incidence, ϕ_i, where the earth's magnetic field parameter, $\phi_1 = 60^0$.

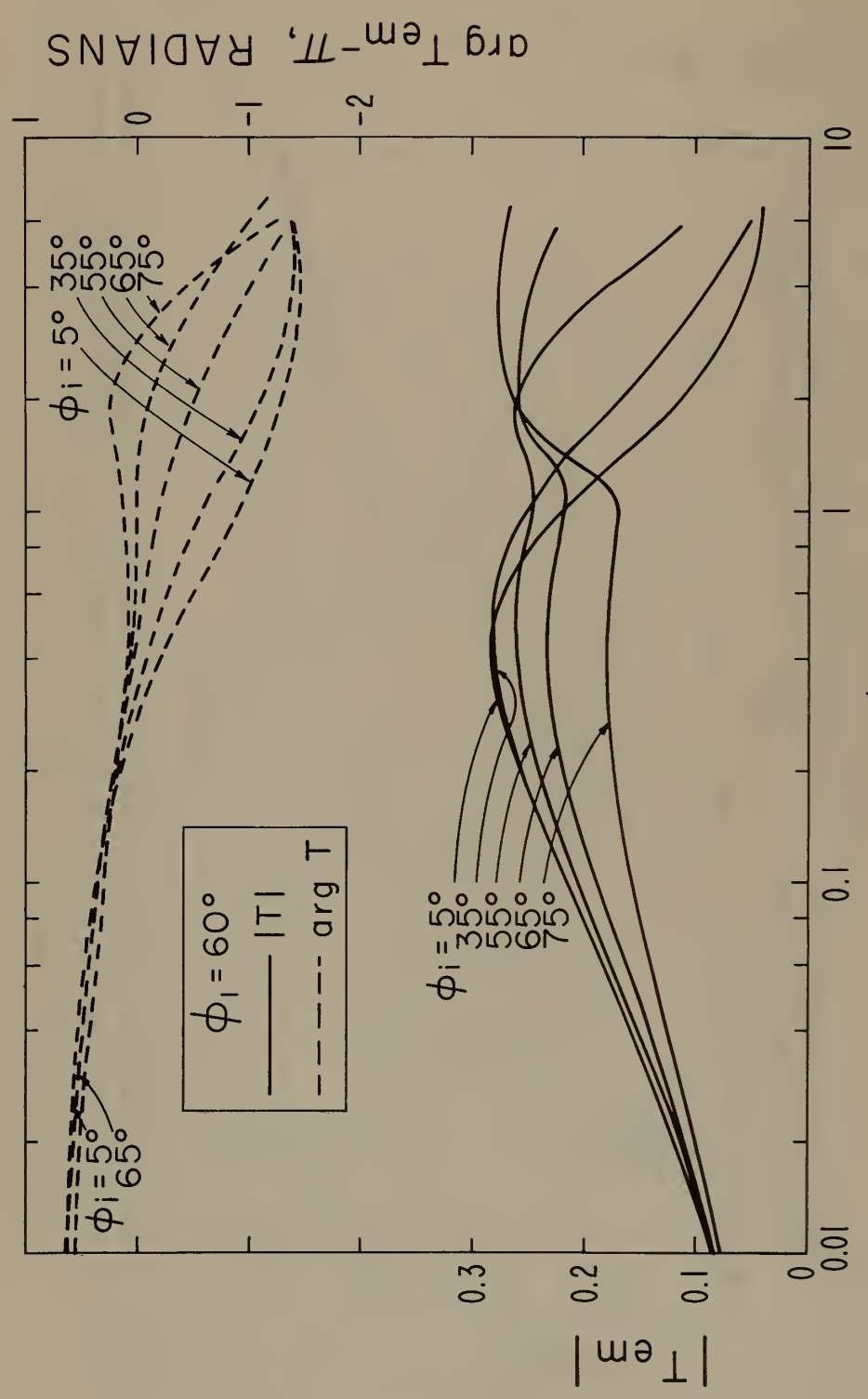

Fig. 31 - Model ionosphere reflection coefficients evaluated with the aid of the Q-L approximation, amplitude, $|T_{em}|$, and phase, arg T_{em}, as a function of the frequency parameter, ω/ω_r, for various values of the angle of incidence, ϕ_i, where the earth's magnetic field parameter, $\phi_1 = 60^0$.

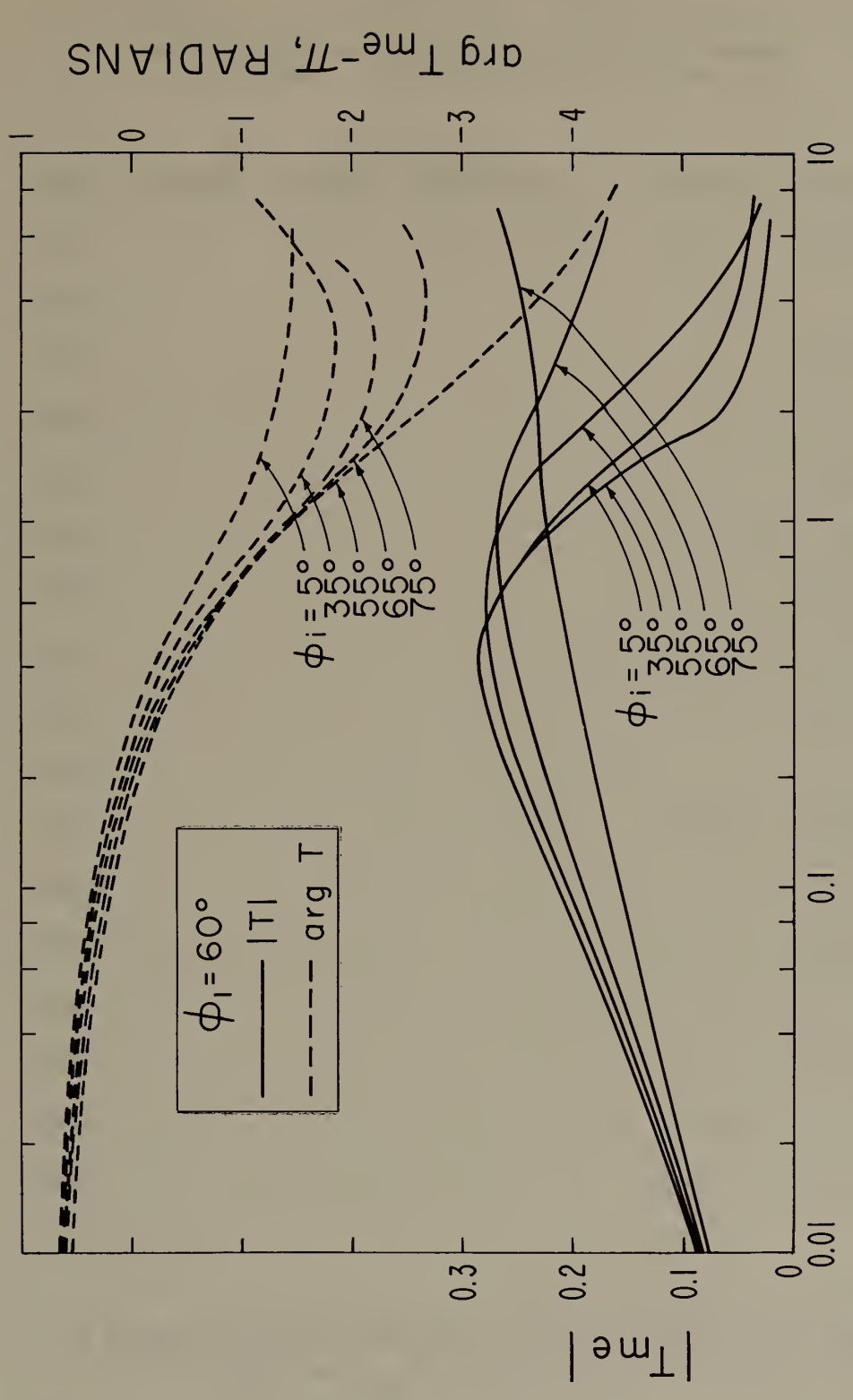

Fig. 32 - Model ionosphere reflection coefficients evaluated with the aid of the Q-L approximation, amplitude, $|T_{me}|$, and phase, arg T_{me}, as a function of the frequency parameter, ω/ω_r, for various values of the angle of incidence, ϕ_i, where the earth's magnetic field parameter, $\phi_l = 60°$.

LIST OF TABLES

Tables 1-19 Tables of rigorous reflection coefficients for the model ionosphere (f = 0.1 - 3000 kc).

* The notation in the table number a refers to the coefficients T_{ee}, T_{em}, and b refers to the coefficients T_{mm} and T_{me}.

Table*	ϕ_i, degrees	N, el/cm^3	ν, c/s	H_m, gauss	ϕ_a, degrees	I, degrees	Page
10a	80.40						63
10b							64
11a	75.08	870	$4(10^6)$		45	60	65
11b							66
12a					180		67
12b							68
13a					0	0	69
13b							70
14a					0	90	71
14b							72
15a				0.2	0	60	73
15b							74
16a				0.4			75
16b							76
17a				0.8			77
17b							78
18a				1.0			79
18b							80
19a				0.5	225		81
19b							82

Tables 20-57 Tables of rigorous reflection coefficients for the model ionosphere illustrating principally azimuth, ϕ_a, dependence but with variations of various other parameters.

Table	e or m**	N, el/cm^3	ν, c/s	ϕ_i, degrees	H_m, gauss	I, degrees	ϕ_a, degrees	f, kc	Page
20	e, m	10^3	0-10^8	82	0.5	0	0	10	83
21	e	1.2(10^3)	10^6	80.397			0-360	10-135	84
22						45			85
23	e	1.2(10^3)	10^6	80.397		84.27	0-360	10-135	86
24						90			87
25	m					0			88
26						45			89

** e refers to vertical polarization reflection coefficients, T_{ee}, T_{em}, and m refers to horizontal polarization reflection coefficients, T_{mm}, T_{me}.

Table	e or m**	N, el/cm^3	ν, c/s	ϕ_i, degrees	H_m, gauss	I, degrees	ϕ_a, degrees	f, kc	Page
27						84.27			90
28						90			91
29	e, m	10^3, $3(10^3)$	$2(10^7)$	82	0	0	0	10-22	92
30	3				0.5		85, 95 265, 275	10, 20	93
31						45			94
32	m					0			95
33						45			96
34	e	$1.2(10^3)$	10^6	80.397		0		10-135	97
35						45			98
36	m					0			99

Table	e or m **	N, el/cm^3	ν, c/s	ϕ_i, degrees	H_m, gauss	I, degrees	ϕ_a, degrees	f, kc	Page
37						45			100
38	e	5	5(10^7)	80		70	0-360	10-135	101
39		10							102
40		20							103
41		50							104
42		100							105
43		300							106
44	m	5							107
45		10							108
46		20							109

Table	e or m**	N, el/cm^3	ν, c/s	ϕ_i, degrees	H_m, gauss	I, degrees	ϕ_a, degrees	f, kc	Page
47		50							110
48	m	100	$5(10^7)$	80	0.5	70	0-360	10-135	111
49		300							112
50	e		$2(10^7)$	82		0		10-22	113
51						45			114
52						84.27			115
53						90			116
54	m					0			117
55						45			118
56						84.27			119
57						90			120

Tables 58-72 Q-L approximation tables.

Table	T	ϕ_i, degrees	ω/ω_r	ϕ_l, degrees	Page
58	T_{ee}, T_{mm}	5-85	0.3002	10, 20, 30	121
59				40, 50, 60	122
60	T_{em}, T_{me}			10, 20, 30	123
61				40, 50, 60	124
62	T_{ee}, T_{mm}		0.467	10, 20, 30	125
63				40, 50, 60	126
64	T_{em}, T_{me}			10, 20, 30	127
65				40, 50, 60	128
66	T_{ee}, T_{mm}	5, 15, 25	0.01-5		129
67		35, 45, 55			130
68		65, 75, 85			131
69	T_{em}, T_{me}	5, 15, 25			132
70		35, 45, 55			133
71		65, 75, 85			134
72	T_{ee}, T_{mm} T_{em}, T_{me}	5-85	0.1501, 0.2335	60	135

Table 1a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}		$\lvert T_{em} \rvert$		arg T_{em}	
0.1	9.1879	- 1	6.1974		4.2564	- 2	3.8556	
0.2	8.8715	- 1	6.1612		5.8445	- 2	3.8260	
1	7.6558	- 1	6.0041		1.1539	- 1	3.7002	
2	6.8624	- 1	5.8815		1.4864	- 1	3.6052	
5	5.5498	- 1	5.6246		1.9526	- 1	3.4153	
9	4.5990	- 1	5.3695		2.2041	- 1	3.2367	
10	4.4262	- 1	5.3133		2.2394	- 1	3.1985	
11	4.2705	- 1	5.2593		2.2678	- 1	3.1621	
15	3.7745	- 1	5.0601		2.3335	- 1	3.0300	
25	3.0338	- 1	4.6407		2.3255	- 1	2.7581	
30	2.8041	- 1	4.4602		2.2792	- 1	2.6406	
40	2.4827	- 1	4.1415		2.1488	- 1	2.4268	
50	2.2594	- 1	3.8675		1.9890	- 1	2.2327	
60	2.0804	- 1	3.6303		1.8100	- 1	2.0551	
70	1.9233	- 1	3.4269		1.6219	- 1	1.8968	
80	1.7839	- 1	3.2552		1.4395	- 1	1.7616	
90	1.6640	- 1	3.1105		1.2753	- 1	1.6488	
100	1.5631	- 1	2.9865		1.1341	- 1	1.5543	
110	1.4780	- 1	2.8778		1.0145	- 1	1.4733	
120	1.4053	- 1	2.7805		9.1307	- 2	1.4023	
130	1.3418	- 1	2.6918		8.2645	- 2	1.3387	
140	1.2853	- 1	2.6098		7.5174	- 2	1.2807	
160	1.1873	- 1	2.4615		6.2953	- 2	1.1776	
180	1.1028	- 1	2.3291		5.3376	- 2	1.0877	
200	1.0276	- 1	2.2089		4.5677	- 2	1.0081	
250	8.6684	- 2	1.9487		3.1841	- 2	8.4722	- 1
300	7.3465	- 2	1.7320		2.2882	- 2	7.3421	- 1
350	6.2498	- 2	1.5486		1.6899	- 2	6.6479	- 1
400	5.3417	- 2	1.3916		1.2857	- 2	6.3439	- 1
450	4.5913	- 2	1.2559		1.0118	- 2	6.3650	- 1
500	3.9712	- 2	1.1374		8.2672	- 3	6.6225	- 1
600	3.0296	- 2	9.3960	- 1	6.1765	- 3	7.4373	- 1
700	2.3695	- 2	7.7827	- 1	5.2089	- 3	8.1044	- 1
800	1.8937	- 2	6.4018	- 1	4.7256	- 3	8.3339	- 1
900	1.5400	- 2	5.1620	- 1	4.4497	- 3	8.1188	- 1
1000	1.2680	- 2	3.9998	- 1	4.2616	- 3	7.5276	- 1
1200	8.7208	- 3	1.7715	- 1	3.9359	- 3	5.4522	- 1
1400	5.8738	- 3	6.2551		3.4817	- 3	2.5360	- 1
1600	3.7924	- 3	6.1129		2.8381	- 3	6.2206	
1800	2.4476	- 3	6.0794		2.1564	- 3	5.9422	
2000	1.6883	- 3	6.1376		1.5908	- 3	5.7270	
2500	9.2982	- 4	5.5135	- 2	7.7298	- 4	5.4021	
3000	6.1453	- 4	1.4986	- 1	4.2347	- 4	5.2352	

Table 1b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.6680	- 1	3.1068		4.3596	- 2	3.8795	
0.2	9.5335	- 1	3.0918		6.0460	- 2	3.8598	
1	8.9850	- 1	3.0247		1.2451	- 1	3.7755	
2	8.5923	- 1	2.9706		1.6561	- 1	3.7112	
5	7.8551	- 1	2.8539		2.3219	- 1	3.5800	
9	7.2131	- 1	2.7342		2.7906	- 1	3.4525	
10	7.0812	- 1	2.7074		2.8742	- 1	3.4245	
11	6.9570	- 1	2.6813		2.9489	- 1	3.3976	
15	6.5173	- 1	2.5836		3.1818	- 1	3.2978	
25	5.6449	- 1	2.3651		3.4930	- 1	3.0792	
30	5.2707	- 1	2.2640		3.5619	- 1	2.9788	
40	4.5774	- 1	2.0725		3.5844	- 1	2.7880	
50	3.9208	- 1	1.8963		3.4825	- 1	2.6079	
60	3.2950	- 1	1.7425		3.2792	- 1	2.4419	
70	2.7270	- 1	1.6221		3.0081	- 1	2.2980	
80	2.2516	- 1	1.5407		2.7172	- 1	2.1823	
90	1.8801	- 1	1.4936		2.4466	- 1	2.0941	
100	1.5983	- 1	1.4709		2.2130	- 1	2.0273	
110	1.3843	- 1	1.4634		2.0171	- 1	1.9758	
120	1.2191	- 1	1.4652		1.8534	- 1	1.9347	
130	1.0890	- 1	1.4725		1.7157	- 1	1.9008	
140	9.8433	- 2	1.4832		1.5986	- 1	1.8719	
160	8.2714	- 2	1.5095		1.4105	- 1	1.8241	
180	7.1523	- 2	1.5388		1.2658	- 1	1.7846	
200	6.3182	- 2	1.5690		1.1506	- 1	1.7500	
250	4.9515	- 2	1.6433		9.4240	- 2	1.6761	
300	4.1444	- 2	1.7132		8.0134	- 2	1.6126	
350	3.6306	- 2	1.7763		6.9867	- 2	1.5555	
400	3.2881	- 2	1.8312		6.2059	- 2	1.5032	
450	3.0531	- 2	1.8773		5.5943	- 2	1.4542	
500	2.8891	- 2	1.9145		5.1052	- 2	1.4075	
600	2.6935	- 2	1.9641		4.3801	- 2	1.3175	
700	2.6042	- 2	1.9838		3.8781	- 2	1.2271	
800	2.5769	- 2	1.9767		3.5169	- 2	1.1319	
900	2.5876	- 2	1.9447		3.2469	- 2	1.0281	
1000	2.6191	- 2	1.8887		3.0341	- 2	9.1257	- 1
1200	2.6781	- 2	1.7073		2.6790	- 2	6.3833	- 1
1400	2.6095	- 2	1.4499		2.2912	- 2	3.1217	- 1
1600	2.3323	- 2	1.1674		1.8229	- 2	6.2598	
1800	1.9326	- 2	9.1942	- 1	1.3608	- 2	5.9697	
2000	1.5467	- 2	7.3076	- 1	9.9133	- 3	5.7473	
2500	8.9927	- 3	4.5890	- 1	4.7176	- 3	5.4107	
3000	5.7235	- 3	3.3065	- 1	2.5577	- 3	5.2355	

Table 2a

f, kc	$\|T_{ee}\|$		arg T_{ee}		$\|T_{em}\|$		arg T_{em}	
0.1	8.1346	- 1	6.0732		4.0328	- 2	3.8095	
0.2	7.4818	- 1	5.9839		5.4184	- 2	3.7652	
0.5	6.3803	- 1	5.8004		7.7526	- 2	3.6837	
1	5.4237	- 1	5.5818		9.8282	- 2	3.6004	
2	4.5228	- 1	5.2545		1.1985	- 1	3.4949	
5	3.8980	- 1	4.6307		1.4440	- 1	3.3152	
9	4.0270	- 1	4.2015		1.5403	- 1	3.1705	
10	4.0862	- 1	4.1305		1.5503	- 1	3.1416	
11	4.1463	- 1	4.0684		1.5573	- 1	3.1146	
15	4.3716	- 1	3.8812		1.5653	- 1	3.0205	
25	4.7666	- 1	3.6191		1.5280	- 1	2.8410	
30	4.8946	- 1	3.5369		1.5002	- 1	2.7678	
40	5.0682	- 1	3.4160		1.4429	- 1	2.6399	
50	5.1740	- 1	3.3274		1.3895	- 1	2.5277	
60	5.2397	- 1	3.2571		1.3415	- 1	2.4256	
70	5.2802	- 1	3.1981		1.2986	- 1	2.3303	
80	5.3039	- 1	3.1467		1.2600	- 1	2.2402	
90	5.3157	- 1	3.1008		1.2250	- 1	2.1543	
100	5.3190	- 1	3.0590		1.1930	- 1	2.0722	
130	5.2964	- 1	2.9497		1.1117	- 1	1.8448	
140	5.2818	- 1	2.9172		1.0887	- 1	1.7749	
160	5.2464	- 1	2.8559		1.0485	- 1	1.6430	
180	5.2056	- 1	2.7988		1.0152	- 1	1.5207	
200	5.1616	- 1	2.7447		9.8819	- 2	1.4068	
250	5.0445	- 1	2.6182		9.4367	- 2	1.1509	
300	4.9228	- 1	2.4992		9.2332	- 2	9.2455	- 1
350	4.7966	- 1	2.3839		9.1843	- 2	7.1752	- 1
400	4.6641	- 1	2.2703		9.2281	- 2	5.2319	- 1
450	4.5226	- 1	2.1573		9.3205	- 2	3.3721	- 1
600	4.0177	- 1	1.8177		9.5879	- 2	6.0880	
700	3.5958	- 1	1.5935		9.5343	- 2	5.7442	
800	3.1118	- 1	1.3828		9.1627	- 2	5.4130	
900	2.6107	- 1	1.2026		8.5019	- 2	5.1076	
1000	2.1573	- 1	1.0660		7.7178	- 2	4.8382	
1200	1.5144	- 1	9.1162	- 1	6.3314	- 2	4.3869	
1400	1.1666	- 1	8.3872	- 1	5.2806	- 2	3.9777	
1600	9.7270	- 2	7.6031	- 1	4.2990	- 2	3.5658	
1800	8.2506	- 2	6.4770	- 1	3.2747	- 2	3.1728	
2000	6.8629	- 2	5.3072	- 1	2.3480	- 2	2.8466	
2500	4.2665	- 2	3.4180	- 1	1.0095	- 2	2.3671	
3000	2.8587	- 2	2.5307	- 1	5.0684	- 3	2.1463	

Table 2b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.8625	- 1	3.1269		4.1549	- 2	3.8394	
0.2	9.8052	- 1	3.1203		5.6520	- 2	3.8074	
0.5	9.6904	- 1	3.1066		8.2881	- 2	3.7503	
1	9.5589	- 1	3.0903		1.0803	- 1	3.6945	
2	9.3702	- 1	3.0660		1.3704	- 1	3.6277	
5	8.9927	- 1	3.0151		1.7870	- 1	3.5235	
9	8.6471	- 1	2.9649		2.0536	- 1	3.4467	
10	8.5750	- 1	2.9539		2.1002	- 1	3.4318	
11	8.5068	- 1	2.9433		2.1418	- 1	3.4180	
15	8.2644	- 1	2.9040		2.2735	- 1	3.3702	
25	7.7853	- 1	2.8185		2.4727	- 1	3.2771	
30	7.5833	- 1	2.7796		2.5354	- 1	3.2374	
40	7.2174	- 1	2.7066		2.6191	- 1	3.1651	
50	6.8798	- 1	2.6385		2.6646	- 1	3.0991	
60	6.5573	- 1	2.5748		2.6836	- 1	3.0381	
70	6.2447	- 1	2.5153		2.6830	- 1	2.9813	
80	5.9406	- 1	2.4601		2.6675	- 1	2.9284	
90	5.6457	- 1	2.4094		2.6409	- 1	2.8792	
100	5.3613	- 1	2.3633		2.6060	- 1	2.8336	
130	4.5882	- 1	2.2520		2.4729	- 1	2.7166	
140	4.3610	- 1	2.2233		2.4245	- 1	2.6837	
160	3.9546	- 1	2.1770		2.3282	- 1	2.6259	
180	3.6094	- 1	2.1430		2.2370	- 1	2.5771	
200	3.3189	- 1	2.1186		2.1538	- 1	2.5355	
250	2.7787	- 1	2.0848		1.9848	- 1	2.4530	
300	2.4192	- 1	2.0709		1.8645	- 1	2.3872	
350	2.1684	- 1	2.0642		1.7800	- 1	2.3279	
400	1.9844	- 1	2.0592		1.7204	- 1	2.2697	
450	1.8433	- 1	2.0537		1.6780	- 1	2.2097	
600	1.5579	- 1	2.0315		1.6040	- 1	2.0076	
700	1.4308	- 1	2.0187		1.5653	- 1	1.8519	
800	1.3422	- 1	2.0141		1.5145	- 1	1.6844	
900	1.2970	- 1	2.0137		1.4465	- 1	1.5147	
1000	1.2940	- 1	2.0031		1.3698	- 1	1.3505	
1200	1.3624	- 1	1.9079		1.2280	- 1	1.0336	
1400	1.4362	- 1	1.7065		1.0993	- 1	6.9708	- 1
1600	1.4222	- 1	1.4276		9.4236	- 2	3.2809	- 1
1800	1.2790	- 1	1.1287		7.4587	- 2	6.2459	
2000	1.0604	- 1	8.7183	- 1	5.5085	- 2	5.9383	
2500	6.1210	- 2	4.9907	- 1	2.4878	- 2	5.4835	
3000	3.8517	- 2	3.3772	- 1	1.2849	- 2	5.2734	

Table 3a

f, kc	$\|T_{ee}\|$		arg T_{ee}		$\|T_{em}\|$		arg T_{em}	
0.1	7.2994	- 1	5.9572		3.8262	- 2	3.7685	
0.2	6.4577	- 1	5.8150		5.0384	- 2	3.7133	
0.5	5.2146	- 1	5.5153		6.9536	- 2	3.6179	
1	4.4032	- 1	5.1580		8.5176	- 2	3.5274	
2	4.0415	- 1	4.6846		9.9946	- 2	3.4209	
5	4.4951	- 1	4.0721		1.1449	- 1	3.2543	
9	5.1032	- 1	3.7806		1.1887	- 1	3.1283	
10	5.2171	- 1	3.7367		1.1916	- 1	3.1037	
11	5.3192	- 1	3.6988		1.1928	- 1	3.0808	
15	5.6382	- 1	3.5866		1.1876	- 1	3.0017	
25	6.0862	- 1	3.4305		1.1493	- 1	2.8528	
30	6.2156	- 1	3.3813		1.1276	- 1	2.7925	
40	6.3836	- 1	3.3083		1.0870	- 1	2.6877	
50	6.4832	- 1	3.2545		1.0522	- 1	2.5962	
60	6.5453	- 1	3.2116		1.0230	- 1	2.5130	
70	6.5847	- 1	3.1755		9.9874	- 2	2.4355	
80	6.6096	- 1	3.1440		9.7851	- 2	2.3622	
90	6.6246	- 1	3.1158		9.6160	- 2	2.2923	
100	6.6328	- 1	3.0901		9.4743	- 2	2.2253	
110	6.6360	- 1	3.0662		9.3557	- 2	2.1607	
120	6.6354	- 1	3.0438		9.2569	- 2	2.0985	
130	6.6321	- 1	3.0226		9.1750	- 2	2.0385	
140	6.6266	- 1	3.0024		9.1083	- 2	1.9806	
160	6.6112	- 1	2.9643		9.0136	- 2	1.8707	
180	6.5917	- 1	2.9286		8.9629	- 2	1.7681	
200	6.5698	- 1	2.8946		8.9492	- 2	1.6722	
250	6.5101	- 1	2.8148		9.0435	- 2	1.4574	
300	6.4478	- 1	2.7396		9.2752	- 2	1.2711	
350	6.3850	- 1	2.6670		9.6037	- 2	1.1056	
400	6.3218	- 1	2.5958		1.0001	- 1	9.5514	- 1
450	6.2574	- 1	2.5253		1.0447	- 1	8.1542	- 1
500	6.1911	- 1	2.4550		1.0927	- 1	6.8339	- 1
600	6.0490	- 1	2.3141		1.1951	- 1	4.3399	- 1
700	5.8886	- 1	2.1714		1.3009	- 1	1.9505	- 1
800	5.7028	- 1	2.0257		1.4056	- 1	6.2427	
1000	5.2211	- 1	1.7232		1.5937	- 1	5.7642	
1200	4.5201	- 1	1.4107		1.7060	- 1	5.2570	
1400	3.5923	- 1	1.1351		1.6577	- 1	4.7299	
1600	2.7740	- 1	9.7021	- 1	1.4614	- 1	4.2414	
1800	2.2815	- 1	8.6971	- 1	1.2285	- 1	3.7999	
2000	1.9649	- 1	7.5600	- 1	9.8663	- 2	3.3820	
2500	1.2683	- 1	4.4633	- 1	4.4261	- 2	2.5792	
3000	8.0887	- 2	2.9649	- 1	2.0014	- 2	2.2286	

Table 3b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.9099	- 1	3.1318		3.9445	- 2	3.7989	
0.2	9.8716	- 1	3.1273		5.2601	- 2	3.7564	
0.5	9.7935	- 1	3.1179		7.4439	- 2	3.6859	
1	9.7024	- 1	3.1069		9.3800	- 2	3.6234	
2	9.5702	- 1	3.0907		1.1458	- 1	3.5564	
5	9.3041	- 1	3.0573		1.4225	- 1	3.4672	
9	9.0606	- 1	3.0248		1.5929	- 1	3.4110	
10	9.0097	- 1	3.0177		1.6227	- 1	3.4008	
11	8.9617	- 1	3.0109		1.6494	- 1	3.3915	
15	8.7908	- 1	2.9857		1.7352	- 1	3.3603	
25	8.4527	- 1	2.9310		1.8716	- 1	3.3016	
30	8.3098	- 1	2.9062		1.9176	- 1	3.2767	
40	8.0503	- 1	2.8596		1.9843	- 1	3.2313	
50	7.8101	- 1	2.8161		2.0275	- 1	3.1898	
60	7.5796	- 1	2.7754		2.0544	- 1	3.1515	
70	7.3550	- 1	2.7373		2.0693	- 1	3.1159	
80	7.1349	- 1	2.7018		2.0753	- 1	3.0830	
90	6.9195	- 1	2.6689		2.0746	- 1	3.0526	
100	6.7093	- 1	2.6385		2.0689	- 1	3.0244	
110	6.5053	- 1	2.6107		2.0595	- 1	2.9984	
120	6.3083	- 1	2.5852		2.0474	- 1	2.9743	
130	6.1190	- 1	2.5620		2.0334	- 1	2.9520	
140	5.9378	- 1	2.5410		2.0182	- 1	2.9314	
160	5.6010	- 1	2.5049		1.9858	- 1	2.8944	
180	5.2987	- 1	2.4757		1.9530	- 1	2.8625	
200	5.0295	- 1	2.4522		1.9214	- 1	2.8346	
250	4.4846	- 1	2.4120		1.8530	- 1	2.7778	
300	4.0851	- 1	2.3886		1.8024	- 1	2.7327	
350	3.7904	- 1	2.3740		1.7689	- 1	2.6935	
400	3.5702	- 1	2.3634		1.7499	- 1	2.6566	
450	3.4033	- 1	2.3538		1.7429	- 1	2.6198	
500	3.2752	- 1	2.3438		1.7457	- 1	2.5818	
600	3.0973	- 1	2.3192		1.7741	- 1	2.4986	
700	2.9849	- 1	2.2865		1.8246	- 1	2.4033	
800	2.9101	- 1	2.2457		1.8896	- 1	2.2940	
1000	2.8165	- 1	2.1435		2.0388	- 1	2.0297	
1200	2.7555	- 1	2.0241		2.1617	- 1	1.7002	
1400	2.7435	- 1	1.8957		2.1635	- 1	1.3160	
1600	2.8042	- 1	1.7281		2.0113	- 1	9.2209	- 1
1800	2.8142	- 1	1.4968		1.7756	- 1	5.3567	- 1
2000	2.6583	- 1	1.2249		1.4812	- 1	1.5265	- 1
2500	1.7016	- 1	6.4513	- 1	7.1021	- 2	5.6809	
3000	1.0144	- 1	3.9314	- 1	3.3447	- 2	5.3490	

Table 4a

f, kc	$\|T_{ee}\|$		arg T_{ee}		$\|T_{em}\|$		arg T_{em}	
0.1	7.0536	- 1	5.9188		3.7614	- 2	3.7559	
0.2	6.1728	- 1	5.7585		4.9221	- 2	3.6978	
0.5	4.9398	- 1	5.4186		6.7201	- 2	3.5991	
1	4.2393	- 1	5.0214		8.1519	- 2	3.5074	
2	4.0834	- 1	4.5320		9.4683	- 2	3.4016	
5	4.7572	- 1	3.9642		1.0713	- 1	3.2393	
9	5.4131	- 1	3.7069		1.1055	- 1	3.1180	
10	5.5299	- 1	3.6683		1.1072	- 1	3.0944	
11	5.6335	- 1	3.6350		1.1075	- 1	3.0724	
15	5.9520	- 1	3.5362		1.1004	- 1	2.9967	
25	6.3890	- 1	3.3983		1.0629	- 1	2.8542	
30	6.5135	- 1	3.3547		1.0426	- 1	2.7966	
40	6.6743	- 1	3.2899		1.0054	- 1	2.6964	
50	6.7693	- 1	3.2421		9.7402	- 2	2.6089	
60	6.8284	- 1	3.2039		9.4816	- 2	2.5294	
70	6.8661	- 1	3.1718		9.2698	- 2	2.4553	
80	6.8901	- 1	3.1438		9.0966	- 2	2.3851	
90	6.9048	- 1	3.1187		8.9550	- 2	2.3182	
100	6.9130	- 1	3.0958		8.8394	- 2	2.2540	
110	6.9166	- 1	3.0745		8.7458	- 2	2.1922	
120	6.9168	- 1	3.0546		8.6707	- 2	2.1326	
130	6.9143	- 1	3.0357		8.6117	- 2	2.0750	
140	6.9100	- 1	3.0177		8.5668	- 2	2.0195	
160	6.8970	- 1	2.9837		8.5132	- 2	1.9140	
180	6.8804	- 1	2.9519		8.5002	- 2	1.8154	
200	6.8615	- 1	2.9216		8.5208	- 2	1.7233	
250	6.8100	- 1	2.8504		8.6875	- 2	1.5169	
300	6.7565	- 1	2.7834		8.9763	- 2	1.3383	
350	6.7029	- 1	2.7187		9.3505	- 2	1.1803	
400	6.6495	- 1	2.6554		9.7858	- 2	1.0373	
450	6.5957	- 1	2.5927		1.0265	- 1	9.0530	- 1
500	6.5410	- 1	2.5304		1.0776	- 1	7.8120	- 1
600	6.4261	- 1	2.4059		1.1860	- 1	5.4866	- 1
700	6.2999	- 1	2.2804		1.2986	- 1	3.2818	- 1
800	6.1580	- 1	2.1529		1.4122	- 1	1.1307	- 1
900	5.9956	- 1	2.0229		1.5240	- 1	6.1822	
1000	5.8071	- 1	1.8896		1.6314	- 1	5.9659	
1200	5.3200	- 1	1.6120		1.8168	- 1	5.5161	
1400	4.6161	- 1	1.3273		1.9125	- 1	5.0308	
1600	3.7179	- 1	1.0857		1.8315	- 1	4.5250	
1800	2.9709	- 1	9.4037	- 1	1.6019	- 1	4.0549	
3000	1.0609	- 1	3.1827	- 1	2.8762	- 2	2.2753	

Table 4b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.9189	- 1	3.1327		3.8781	- 2	3.7864	
0.2	9.8841	- 1	3.1286		5.1394	- 2	3.7410	
0.5	9.8130	- 1	3.1201		7.1953	- 2	3.6673	
1	9.7299	- 1	3.1101		8.9797	- 2	3.6038	
2	9.6091	- 1	3.0955		1.0859	- 1	3.5376	
5	9.3661	- 1	3.0655		1.3318	- 1	3.4528	
9	9.1440	- 1	3.0364		1.4824	- 1	3.4015	
10	9.0976	- 1	3.0301		1.5088	- 1	3.3924	
11	9.0538	- 1	3.0240		1.5326	- 1	3.3842	
15	8.8980	- 1	3.0014		1.6091	- 1	3.3565	
25	8.5895	- 1	2.9524		1.7323	- 1	3.3048	
30	8.4590	- 1	2.9302		1.7746	- 1	3.2828	
40	8.2218	- 1	2.8885		1.8367	- 1	3.2425	
50	8.0019	- 1	2.8496		1.8780	- 1	3.2056	
60	7.7907	- 1	2.8131		1.9049	- 1	3.1714	
70	7.5846	- 1	2.7790		1.9211	- 1	3.1398	
80	7.3823	- 1	2.7472		1.9294	- 1	3.1105	
90	7.1840	- 1	2.7177		1.9317	- 1	3.0834	
100	6.9901	- 1	2.6904		1.9296	- 1	3.0584	
110	6.8014	- 1	2.6653		1.9242	- 1	3.0354	
120	6.6186	- 1	2.6424		1.9164	- 1	3.0141	
130	6.4425	- 1	2.6214		1.9068	- 1	2.9944	
140	6.2734	- 1	2.6024		1.8961	- 1	2.9761	
160	5.9575	- 1	2.5694		1.8727	- 1	2.9435	
180	5.6717	- 1	2.5424		1.8485	- 1	2.9153	
200	5.4153	- 1	2.5205		1.8250	- 1	2.8907	
250	4.8891	- 1	2.4821		1.7737	- 1	2.8404	
300	4.4967	- 1	2.4591		1.7363	- 1	2.8005	
350	4.2036	- 1	2.4444		1.7126	- 1	2.7659	
400	3.9828	- 1	2.4337		1.7010	- 1	2.7336	
450	3.8153	- 1	2.4243		1.6997	- 1	2.7014	
500	3.6873	- 1	2.4148		1.7070	- 1	2.6682	
600	3.5131	- 1	2.3921		1.7424	- 1	2.5956	
700	3.4099	- 1	2.3622		1.7987	- 1	2.5123	
800	3.3501	- 1	2.3243		1.8698	- 1	2.4168	
900	3.3173	- 1	2.2785		1.9514	- 1	2.3084	
1000	3.3013	- 1	2.2252		2.0393	- 1	2.1866	
1200	3.2913	- 1	2.0979		2.2150	- 1	1.9005	
1400	3.2767	- 1	1.9485		2.3383	- 1	1.5536	
1600	3.2615	- 1	1.7853		2.3112	- 1	1.1590	
1800	3.2596	- 1	1.5910		2.1171	- 1	7.6195	- 1
3000	1.3236	- 1	4.2294	- 1	4.4520	- 2	5.3924	

Table 5a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}		$\lvert T_{em} \rvert$		arg T_{em}	
0.1	6.9361	- 1	5.8997		3.7298	- 2	3.7497	
0.2	6.0397	- 1	5.7301		4.8659	- 2	3.6904	
0.5	4.8214	- 1	5.3701		6.6098	- 2	3.5905	
1	4.1828	- 1	4.9553		7.9804	- 2	3.4981	
2	4.1250	- 1	4.4636		9.2254	- 2	3.3927	
5	4.8856	- 1	3.9191		1.0380	- 1	3.2325	
9	5.5558	- 1	3.6764		1.0683	- 1	3.1133	
10	5.6729	- 1	3.6400		1.0695	- 1	3.0902	
11	5.7765	- 1	3.6086		1.0694	- 1	3.0686	
25	6.5230	- 1	3.3849		1.0246	- 1	2.8546	
30	6.6449	- 1	3.3436		1.0049	- 1	2.7982	
40	6.8020	- 1	3.2823		9.6922	- 2	2.7000	
50	6.8947	- 1	3.2370		9.3929	- 2	2.6142	
60	6.9524	- 1	3.2008		9.1480	- 2	2.5363	
70	6.9892	- 1	3.1703		8.9490	- 2	2.4636	
80	7.0126	- 1	3.1437		8.7875	- 2	2.3948	
90	7.0271	- 1	3.1199		8.6569	- 2	2.3292	
100	7.0354	- 1	3.0981		8.5517	- 2	2.2662	
110	7.0391	- 1	3.0780		8.4678	- 2	2.2055	
120	7.0395	- 1	3.0591		8.4021	- 2	2.1470	
130	7.0374	- 1	3.0412		8.3519	- 2	2.0905	
140	7.0334	- 1	3.0241		8.3154	- 2	2.0359	
160	7.0213	- 1	2.9919		8.2774	- 2	1.9323	
180	7.0058	- 1	2.9616		8.2784	- 2	1.8355	
200	6.9882	- 1	2.9329		8.3118	- 2	1.7449	
250	6.9399	- 1	2.8654		8.5051	- 2	1.5422	
300	6.8899	- 1	2.8018		8.8144	- 2	1.3669	
350	6.8400	- 1	2.7404		9.2044	- 2	1.2120	
400	6.7904	- 1	2.6803		9.6522	- 2	1.0721	
450	6.7408	- 1	2.6210		1.0142	- 1	9.4320	- 1
500	6.6905	- 1	2.5620		1.0661	- 1	8.2232	- 1
600	6.5859	- 1	2.4443		1.1760	- 1	5.9657	- 1
700	6.4724	- 1	2.3259		1.2902	- 1	3.8347	- 1
800	6.3465	- 1	2.2060		1.4057	- 1	1.7645	- 1
900	6.2044	- 1	2.0839		1.5202	- 1	6.2545	
1000	6.0421	- 1	1.9591		1.6316	- 1	6.0483	
1200	5.6327	- 1	1.6991		1.8339	- 1	5.6228	
1400	5.0487	- 1	1.4259		1.9742	- 1	5.1660	
1600	4.2295	- 1	1.1655		1.9732	- 1	4.6745	
1800	3.3865	- 1	9.8400	- 1	1.7849	- 1	4.1919	
2000	2.8172	- 1	8.6786	- 1	1.5142	- 1	3.7532	
2500	1.9186	- 1	5.4493	- 1	7.9269	- 2	2.8029	
3000	1.2076	- 1	3.3145	- 1	3.4272	- 2	2.3047	

Table 5b

f, kc	$\|T_{mm}\|$		arg T_{mm}		$\|T_{me}\|$		arg T_{me}	
0.1	9.9226	- 1	3.1331		3.8456	- 2	3.7803	
0.2	9.8895	- 1	3.1292		5.0808	- 2	3.7336	
0.5	9.8213	- 1	3.1211		7.0749	- 2	3.6585	
1	9.7417	- 1	3.1115		8.7917	- 2	3.5946	
2	9.6257	- 1	3.0976		1.0582	- 1	3.5289	
5	9.3928	- 1	3.0690		1.2907	- 1	3.4462	
9	9.1799	- 1	3.0413		1.4329	- 1	3.3972	
10	9.1355	- 1	3.0353		1.4579	- 1	3.3886	
11	9.0935	- 1	3.0295		1.4803	- 1	3.3808	
25	8.6486	- 1	2.9615		1.6705	- 1	3.3059	
30	8.5235	- 1	2.9404		1.7110	- 1	3.2852	
40	8.2960	- 1	2.9007		1.7711	- 1	3.2472	
50	8.0850	- 1	2.8637		1.8115	- 1	3.2122	
60	7.8822	- 1	2.8291		1.8382	- 1	3.1798	
70	7.6842	- 1	2.7966		1.8548	- 1	3.1497	
80	7.4897	- 1	2.7664		1.8638	- 1	3.1220	
90	7.2988	- 1	2.7383		1.8673	- 1	3.0963	
100	7.1121	- 1	2.7124		1.8665	- 1	3.0727	
110	6.9301	- 1	2.6885		1.8626	- 1	3.0509	
120	6.7538	- 1	2.6666		1.8564	- 1	3.0307	
130	6.5835	- 1	2.6466		1.8486	- 1	3.0121	
140	6.4199	- 1	2.6284		1.8396	- 1	2.9949	
160	6.1136	- 1	2.5968		1.8196	- 1	2.9642	
180	5.8356	- 1	2.5709		1.7988	- 1	2.9376	
200	5.5854	- 1	2.5497		1.7785	- 1	2.9143	
250	5.0693	- 1	2.5124		1.7341	- 1	2.8670	
300	4.6817	- 1	2.4897		1.7019	- 1	2.8293	
350	4.3906	- 1	2.4750		1.6822	- 1	2.7968	
400	4.1707	- 1	2.4644		1.6736	- 1	2.7664	
450	4.0036	- 1	2.4552		1.6745	- 1	2.7361	
500	3.8760	- 1	2.4460		1.6836	- 1	2.7049	
600	3.7039	- 1	2.4243		1.7213	- 1	2.6367	
700	3.6047	- 1	2.3957		1.7791	- 1	2.5584	
800	3.5511	- 1	2.3593		1.8514	- 1	2.4685	
900	3.5268	- 1	2.3152		1.9343	- 1	2.3665	
1000	3.5216	- 1	2.2635		2.0242	- 1	2.2521	
1200	3.5390	- 1	2.1375		2.2099	- 1	1.9843	
1400	3.5492	- 1	1.9838		2.3661	- 1	1.6606	
1600	3.5187	- 1	1.8133		2.4108	- 1	1.2817	
1800	3.4820	- 1	1.6284		2.2702	- 1	8.8126	- 1
2000	3.4041	- 1	1.4085		2.0073	- 1	4.9320	- 1
2500	2.5445	- 1	7.9010	- 1	1.1311	- 1	5.8915	
3000	1.5049	- 1	4.4123	- 1	5.1318	- 2	5.4199	

Table 6a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}		$\lvert T_{em} \rvert$		arg T_{em}	
0.2	9.2925	- 1	6.2076		6.2030	- 2	3.8593	
0.5	8.9050	- 1	6.1616		9.4348	- 2	3.8190	
1	8.4883	- 1	6.1078		1.2772	- 1	3.7728	
2	7.9340	- 1	6.0285		1.6980	- 1	3.7061	
5	6.9482	- 1	5.8588		2.3750	- 1	3.5686	
9	6.1574	- 1	5.6862		2.8430	- 1	3.4348	
10	6.0039	- 1	5.6477		2.9251	- 1	3.4055	
11	5.8624	- 1	5.6104		2.9979	- 1	3.3775	
15	5.3876	- 1	5.4711		3.2216	- 1	3.2743	
25	4.5820	- 1	5.1647		3.5134	- 1	3.0545	
30	4.2979	- 1	5.0253		3.5826	- 1	2.9565	
40	3.8664	- 1	4.7632		3.6402	- 1	2.7736	
50	3.5523	- 1	4.5158		3.6308	- 1	2.6000	
60	3.3076	- 1	4.2757		3.5766	- 1	2.4283	
70	3.0954	- 1	4.0354		3.4796	- 1	2.2510	
90	2.5253	- 1	3.5303		2.9896	- 1	1.8530	
100	2.0852	- 1	3.3519		2.5138	- 1	1.7050	
110	1.7773	- 1	3.2622		2.1425	- 1	1.6327	
120	1.5871	- 1	3.2046		1.8848	- 1	1.5896	
130	1.4649	- 1	3.1585		1.6966	- 1	1.5579	
140	1.3841	- 1	3.1173		1.5525	- 1	1.5312	
160	1.2980	- 1	3.0390		1.3464	- 1	1.4841	
180	1.2740	- 1	2.9589		1.2073	- 1	1.4379	
200	1.2912	- 1	2.8711		1.1096	- 1	1.3879	
250	1.4627	- 1	2.5825		9.7026	- 2	1.2187	
300	1.6938	- 1	2.1219		8.8687	- 2	9.1511	- 1
350	1.6265	- 1	1.5182		6.8717	- 2	4.3962	- 1
400	1.2215	- 1	1.0049		3.8096	- 2	6.3703	- 2
450	8.5795	- 2	6.9260	- 1	1.8513	- 2	5.0678	- 2
500	6.2940	- 2	5.0866	- 1	1.0660	- 2	4.0928	- 1
600	3.9557	- 2	3.0181	- 1	9.5132	- 3	1.1208	
700	2.8789	- 2	1.7720	- 1	1.0713	- 2	1.3070	
800	2.3145	- 2	8.1629	- 2	1.1536	- 2	1.3440	
900	2.0102	- 2	6.2775		1.2309	- 2	1.3310	
1000	1.8687	- 2	6.1851		1.3340	- 2	1.2873	
1200	1.9829	- 2	5.9118		1.7505	- 2	1.0761	
1400	2.5563	- 2	5.1867		2.5816	- 2	3.8987	- 1
1600	1.5363	- 2	4.0729		1.6891	- 2	5.5883	
1800	6.8946	- 3	3.6451		7.9833	- 3	5.1823	
2000	3.8266	- 3	3.4807		4.5463	- 3	5.0345	
2500	1.4742	- 3	3.3182		1.7232	- 3	4.9001	
3000	8.1873	- 4	3.2509		8.7295	- 4	4.8488	

Table 6b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.2	9.6183	- 1	3.1005		6.3357	- 2	3.8804	
0.5	9.4033	- 1	3.0746		9.7563	- 2	3.8524	
1	9.1669	- 1	3.0435		1.3394	- 1	3.8199	
2	8.8429	- 1	2.9964		1.8166	- 1	3.7723	
5	8.2350	- 1	2.8916		2.6464	- 1	3.6717	
9	7.7089	- 1	2.7801		3.2956	- 1	3.5700	
10	7.6016	- 1	2.7546		3.4201	- 1	3.5473	
11	7.5009	- 1	2.7297		3.5345	- 1	3.5253	
15	7.1483	- 1	2.6350		3.9162	- 1	3.4428	
25	6.4741	- 1	2.4166		4.5589	- 1	3.2576	
30	6.1995	- 1	2.3117		4.7844	- 1	3.1706	
40	5.7155	- 1	2.1032		5.1214	- 1	3.0002	
50	5.2757	- 1	1.8894		5.3477	- 1	2.8286	
60	4.8416	- 1	1.6622		5.4805	- 1	2.6490	
70	4.3707	- 1	1.4118		5.5064	- 1	2.4539	
90	2.9390	- 1	8.1223	- 1	4.8267	- 1	1.9901	
100	1.9997	- 1	6.1851	- 1	3.9525	- 1	1.8207	
110	1.4024	- 1	5.6846	- 1	3.2805	- 1	1.7474	
120	1.0427	- 1	5.7399	- 1	2.8241	- 1	1.7109	
130	8.0732	- 2	6.0459	- 1	2.4941	- 1	1.6891	
140	6.4310	- 2	6.5114	- 1	2.2417	- 1	1.6747	
160	4.3428	- 2	7.8180	- 1	1.8762	- 1	1.6575	
180	3.1450	- 2	9.5807	- 1	1.6206	- 1	1.6495	
200	2.4515	- 2	1.1730		1.4301	- 1	1.6477	
250	1.8762	- 2	1.7241		1.1196	- 1	1.6687	
300	1.9153	- 2	2.0258		9.7071	- 2	1.7143	
350	1.8380	- 2	2.1324		9.1834	- 2	1.7006	
400	1.6752	- 2	2.3175		8.4774	- 2	1.6288	
450	1.7292	- 2	2.5111		7.6386	- 2	1.5748	
500	1.8686	- 2	2.6251		6.9461	- 2	1.5417	
600	2.1554	- 2	2.7281		6.0130	- 2	1.4993	
700	2.4365	- 2	2.7654		5.4809	- 2	1.4642	
800	2.7505	- 2	2.7724		5.2147	- 2	1.4265	
900	3.1407	- 2	2.7575		5.1645	- 2	1.3806	
1000	3.6649	- 2	2.7195		5.3329	- 2	1.3198	
1200	5.5651	- 2	2.5236		6.6084	- 2	1.0921	
1400	9.3708	- 2	1.8497		9.4354	- 2	3.9786	- 1
1600	6.8948	- 2	7.7927	- 1	6.0452	- 2	5.5937	
1800	3.6347	- 2	3.8468	- 1	2.8212	- 2	5.1864	
2000	2.2842	- 2	2.4544	- 1	1.5928	- 2	5.0374	
2500	1.0674	- 2	1.2642	- 1	5.9533	- 3	4.9018	
3000	6.4106	- 3	8.5568	- 2	2.9821	- 3	4.8509	

Table 7a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}		$\lvert T_{em} \rvert$		arg T_{em}	
0.1	8.8996	- 1	6.1651		4.3511	- 2	3.8543	
0.2	8.4827	- 1	6.1152		5.9663	- 2	3.8254	
0.5	7.7210	- 1	6.0142		8.8755	- 2	3.7699	
1	6.9634	- 1	5.8965		1.1725	- 1	3.7102	
2	6.0651	- 1	5.7220		1.5079	- 1	3.6302	
5	4.8282	- 1	5.3483		1.9853	- 1	3.4842	
9	4.2293	- 1	4.9879		2.2624	- 1	3.3603	
10	4.1571	- 1	4.9134		2.3056	- 1	3.3352	
11	4.1033	- 1	4.8440		2.3423	- 1	3.3116	
15	4.0086	- 1	4.6091		2.4440	- 1	3.2290	
25	4.1128	- 1	4.2239		2.5384	- 1	3.0712	
30	4.2127	- 1	4.0957		2.5468	- 1	3.0074	
40	4.4116	- 1	3.9084		2.5318	- 1	2.8972	
50	4.5856	- 1	3.7759		2.4977	- 1	2.8025	
60	4.7328	- 1	3.6752		2.4575	- 1	2.7176	
70	4.8583	- 1	3.5946		2.4164	- 1	2.6394	
80	4.9673	- 1	3.5275		2.3770	- 1	2.5657	
90	5.0640	- 1	3.4697		2.3401	- 1	2.4948	
100	5.1515	- 1	3.4188		2.3055	- 1	2.4255	
110	5.2320	- 1	3.3728		2.2728	- 1	2.3568	
120	5.3070	- 1	3.3305		2.2411	- 1	2.2880	
130	5.3775	- 1	3.2909		2.2090	- 1	2.2181	
140	5.4435	- 1	3.2533		2.1743	- 1	2.1466	
160	5.5593	- 1	3.1820		2.0846	- 1	1.9973	
180	5.6400	- 1	3.1155		1.9388	- 1	1.8468	
200	5.6896	- 1	3.0591		1.7404	- 1	1.7293	
250	5.9615	- 1	2.9477		1.3889	- 1	1.6224	
300	6.4352	- 1	2.8117		1.3153	- 1	1.6209	
350	6.8165	- 1	2.6376		1.4671	- 1	1.5650	
400	6.9860	- 1	2.4556		1.6900	- 1	1.3928	
450	7.0216	- 1	2.2783		1.8849	- 1	1.1632	
500	6.9822	- 1	2.1041		2.0392	- 1	9.1401	- 1
700	6.2711	- 1	1.3581		2.3470	- 1	6.1346	
800	5.2395	- 1	8.9819	- 1	2.1893	- 1	5.5294	
900	3.4113	- 1	5.1443	- 1	1.5839	- 1	5.0201	
1000	2.1731	- 1	3.8639	- 1	1.1632	- 1	4.7939	
1200	1.0675	- 1	4.2146	- 1	9.1339	- 2	4.5340	
1400	7.4317	- 2	8.8640	- 1	9.9861	- 2	4.1227	
1600	1.0651	- 1	9.0587	- 1	9.9415	- 2	3.3189	
1800	9.9955	- 2	4.1855	- 1	6.0376	- 2	2.4157	
2000	6.8387	- 2	1.9426	- 1	2.7626	- 2	2.0156	
2500	3.5890	- 2	9.0778	- 2	7.9664	- 3	1.7879	
3000	2.3231	- 2	6.4433	- 2	3.6208	- 3	1.7205	

Table 7b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.8780	- 1	3.1283		4.4419	- 2	3.8749	
0.2	9.8274	- 1	3.1222		6.1432	- 2	3.8546	
0.5	9.7260	- 1	3.1093		9.2955	- 2	3.8160	
1	9.6101	- 1	3.0935		1.2519	- 1	3.7752	
2	9.4426	- 1	3.0691		1.6547	- 1	3.7219	
5	9.1003	- 1	3.0152		2.3026	- 1	3.6277	
9	8.7769	- 1	2.9599		2.7665	- 1	3.5500	
10	8.7083	- 1	2.9475		2.8517	- 1	3.5344	
11	8.6433	- 1	2.9356		2.9289	- 1	3.5197	
15	8.4110	- 1	2.8910		3.1806	- 1	3.4681	
25	7.9548	- 1	2.7930		3.5891	- 1	3.3664	
30	7.7681	- 1	2.7481		3.7310	- 1	3.3231	
40	7.4445	- 1	2.6622		3.9485	- 1	3.2438	
50	7.1638	- 1	2.5792		4.1087	- 1	3.1699	
60	6.9087	- 1	2.4973		4.2308	- 1	3.0987	
70	6.6680	- 1	2.4151		4.3241	- 1	3.0286	
80	6.4336	- 1	2.3318		4.3936	- 1	2.9588	
90	6.1991	- 1	2.2467		4.4423	- 1	2.8885	
100	5.9589	- 1	2.1589		4.4712	- 1	2.8172	
110	5.7072	- 1	2.0679		4.4803	- 1	2.7444	
120	5.4381	- 1	1.9729		4.4685	- 1	2.6695	
130	5.1448	- 1	1.8733		4.4334	- 1	2.5921	
140	4.8191	- 1	1.7686		4.3706	- 1	2.5116	
160	4.0338	- 1	1.5460		4.1348	- 1	2.3414	
180	3.0460	- 1	1.3372		3.6951	- 1	2.1714	
200	2.0769	- 1	1.2422		3.1066	- 1	2.0509	
250	9.4239	- 2	1.5882		2.0477	- 1	2.0249	
300	7.6527	- 2	2.1727		1.6090	- 1	2.1926	
350	8.8514	- 2	2.5150		1.5628	- 1	2.3706	
400	1.0498	- 1	2.6172		1.6673	- 1	2.4445	
450	1.1723	- 1	2.6151		1.7915	- 1	2.4465	
500	1.2441	- 1	2.5749		1.9093	- 1	2.4114	
700	1.1615	- 1	2.3710		2.3046	- 1	2.0903	
800	9.7073	- 2	2.4059		2.3760	- 1	1.8377	
900	9.8027	- 2	2.6514		2.1654	- 1	1.6039	
1000	1.1934	- 1	2.7398		1.9835	- 1	1.4884	
1200	1.7949	- 1	2.6749		2.0391	- 1	1.3059	
1400	2.9271	- 1	2.3166		2.5987	- 1	9.1848	- 1
1600	3.7043	- 1	1.5340		2.8133	- 1	1.2427	- 1
1800	2.7159	- 1	6.9558	- 1	1.8088	- 1	5.5261	
2000	1.5007	- 1	3.3385	- 1	8.7160	- 2	5.1386	
2500	6.1062	- 2	1.3985	- 1	2.7165	- 2	4.9208	
3000	3.5480	- 2	8.8778	- 2	1.2867	- 2	4.8571	

Table 8a

f, kc	$\|T_{ee}\|$		arg T_{ee}	$\|T_{em}\|$		arg T_{em}	
0.1	8.3251	- 1	6.0969	4.2159	- 2	3.8272	
0.2	7.7274	- 1	6.0177	5.7081	- 2	3.7895	
0.5	6.6995	- 1	5.8556	8.2888	- 2	3.7203	
1	5.7778	- 1	5.6629	1.0677	- 1	3.6499	
2	4.8621	- 1	5.3732	1.3302	- 1	3.5614	
5	4.1189	- 1	4.7982	1.6656	- 1	3.4140	
9	4.1915	- 1	4.3750	1.8351	- 1	3.2994	
10	4.2508	- 1	4.3032	1.8591	- 1	3.2770	
11	4.3143	- 1	4.2403	1.8789	- 1	3.2563	
15	4.5735	- 1	4.0507	1.9291	- 1	3.1852	
25	5.0978	- 1	3.7911	1.9595	- 1	3.0551	
30	5.2915	- 1	3.7129	1.9538	- 1	3.0041	
40	5.5862	- 1	3.6022	1.9278	- 1	2.9180	
50	5.7995	- 1	3.5257	1.8952	- 1	2.8457	
60	5.9622	- 1	3.4681	1.8625	- 1	2.7822	
70	6.0922	- 1	3.4224	1.8322	- 1	2.7247	
80	6.2002	- 1	3.3845	1.8053	- 1	2.6713	
90	6.2934	- 1	3.3522	1.7818	- 1	2.6208	
100	6.3762	- 1	3.3240	1.7617	- 1	2.5722	
110	6.4519	- 1	3.2987	1.7446	- 1	2.5249	
120	6.5226	- 1	3.2757	1.7302	- 1	2.4783	
130	6.5899	- 1	3.2544	1.7179	- 1	2.4319	
140	6.6551	- 1	3.2345	1.7072	- 1	2.3854	
160	6.7819	- 1	3.1973	1.6880	- 1	2.2909	
180	6.9073	- 1	3.1622	1.6660	- 1	2.1932	
200	7.0325	- 1	3.1281	1.6317	- 1	2.0924	
250	7.3406	- 1	3.0434	1.4451	- 1	1.8811	
300	7.6719	- 1	2.9527	1.3117	- 1	1.8418	
350	7.9285	- 1	2.8469	1.4089	- 1	1.8251	
400	8.0435	- 1	2.7401	1.6006	- 1	1.7189	
450	8.0747	- 1	2.6391	1.7877	- 1	1.5641	
500	8.0650	- 1	2.5432	1.9536	- 1	1.3951	
600	7.9865	- 1	2.3599	2.2387	- 1	1.0580	
700	7.8617	- 1	2.1807	2.4926	- 1	7.3662	- 1

Table 8b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
0.1	9.9220	- 1	3.1328	4.3070	- 2	3.8485
0.2	9.8890	- 1	3.1287	5.8832	- 2	3.8197
0.5	9.8214	- 1	3.1197	8.6949	- 2	3.7680
1	9.7418	- 1	3.1087	1.1426	- 1	3.7172
2	9.6232	- 1	3.0919	1.4643	- 1	3.6563
5	9.3738	- 1	3.0557	1.9413	- 1	3.5626
9	9.1351	- 1	3.0195	2.2584	- 1	3.4960
10	9.0844	- 1	3.0116	2.3151	- 1	3.4835
11	9.0364	- 1	3.0039	2.3661	- 1	3.4721
15	8.8650	- 1	2.9756	2.5309	- 1	3.4334
25	8.5300	- 1	2.9141	2.7977	- 1	3.3624
30	8.3935	- 1	2.8862	2.8919	- 1	3.3334
40	8.1577	- 1	2.8331	3.0393	- 1	3.2809
50	7.9541	- 1	2.7822	3.1517	- 1	3.2323
60	7.7698	- 1	2.7322	3.2405	- 1	3.1855
70	7.5969	- 1	2.6824	3.3115	- 1	3.1395
80	7.4297	- 1	2.6324	3.3678	- 1	3.0938
90	7.2640	- 1	2.5819	3.4114	- 1	3.0481
100	7.0962	- 1	2.5306	3.4434	- 1	3.0021
110	6.9234	- 1	2.4781	3.4646	- 1	2.9558
120	6.7425	- 1	2.4244	3.4753	- 1	2.9090
130	6.5503	- 1	2.3691	3.4755	- 1	2.8616
140	6.3438	- 1	2.3121	3.4648	- 1	2.8134
160	5.8734	- 1	2.1928	3.4082	- 1	2.7144
180	5.3003	- 1	2.0673	3.2967	- 1	2.6119
200	4.5970	- 1	1.9425	3.1166	- 1	2.5080
250	2.5715	- 1	1.8225	2.3628	- 1	2.3237
300	1.6741	- 1	2.2203	1.7669	- 1	2.4099
350	1.7144	- 1	2.6000	1.6350	- 1	2.5912
400	1.9624	- 1	2.7580	1.6976	- 1	2.6947
450	2.1889	- 1	2.8050	1.7987	- 1	2.7345
500	2.3641	- 1	2.8074	1.9046	- 1	2.7412
600	2.5978	- 1	2.7652	2.1195	- 1	2.7046
700	2.7370	- 1	2.7028	2.3453	- 1	2.6303

Table 9a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
0.1	8.1170	- 1	6.0796	4.1644	- 2	3.8170	
0.2	7.4611	- 1	5.9799	5.6110	- 2	3.7763	
0.5	6.3620	- 1	5.7930	8.0748	- 2	3.7026	
1	5.4226	- 1	5.5692	1.0308	- 1	3.6291	
2	4.5727	- 1	5.2348	1.2702	- 1	3.5387	
5	4.1067	- 1	4.6157	1.5653	- 1	3.3921	
9	4.3849	- 1	4.2130	1.7077	- 1	3.2809	
10	4.4733	- 1	4.1484	1.7273	- 1	3.2594	
11	4.5605	- 1	4.0923	1.7431	- 1	3.2395	
15	4.8789	- 1	3.9263	1.7820	- 1	3.1718	
25	5.4486	- 1	3.7028	1.7999	- 1	3.0488	
30	5.6469	- 1	3.6358	1.7919	- 1	3.0010	
40	5.9412	- 1	3.5410	1.7648	- 1	2.9205	
50	6.1496	- 1	3.4753	1.7335	- 1	2.8533	
60	6.3066	- 1	3.4260	1.7030	- 1	2.7945	
70	6.4309	- 1	3.3868	1.6754	- 1	2.7415	
80	6.5337	- 1	3.3543	1.6511	- 1	2.6924	
90	6.6219	- 1	3.3267	1.6304	- 1	2.6461	
100	6.7002	- 1	3.3025	1.6130	- 1	2.6017	
110	6.7715	- 1	3.2808	1.5985	- 1	2.5585	
120	6.8381	- 1	3.2612	1.5867	- 1	2.5161	
130	6.9014	- 1	3.2430	1.5771	- 1	2.4740	
140	6.9628	- 1	3.2260	1.5693	- 1	2.4320	
160	7.0825	- 1	3.1944	1.5570	- 1	2.3470	
180	7.2018	- 1	3.1646	1.5450	- 1	2.2595	
200	7.3224	- 1	3.1356	1.5265	- 1	2.1692	
250	7.6282	- 1	3.0617	1.4047	- 1	1.9636	
300	7.9342	- 1	2.9806	1.2856	- 1	1.9027	
350	8.1608	- 1	2.8879	1.3693	- 1	1.8832	
400	8.2606	- 1	2.7952	1.5464	- 1	1.7841	
450	8.2868	- 1	2.7081	1.7220	- 1	1.6396	
500	8.2776	- 1	2.6258	1.8794	- 1	1.4820	
600	8.2101	- 1	2.4701	2.1528	- 1	1.1695	
700	8.1072	- 1	2.3199	2.3985	- 1	8.7466	- 1

Table 9b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
0.1	9.9314	- 1	3.1338	4.2548	- 2	3.8384
0.2	9.9021	- 1	3.1301	5.7841	- 2	3.8066
0.5	9.8417	- 1	3.1220	8.4724	- 2	3.7505
1	9.7698	- 1	3.1121	1.1034	- 1	3.6967
2	9.6622	- 1	3.0971	1.3989	- 1	3.6341
5	9.4349	- 1	3.0649	1.8258	- 1	3.5415
9	9.2177	- 1	3.0330	2.1038	- 1	3.4786
10	9.1717	- 1	3.0261	2.1531	- 1	3.4671
11	9.1281	- 1	3.0194	2.1975	- 1	3.4565
15	8.9726	- 1	2.9946	2.3408	- 1	3.4214
25	8.6692	- 1	2.9409	2.5735	- 1	3.3581
30	8.5458	- 1	2.9165	2.6562	- 1	3.3324
40	8.3326	- 1	2.8702	2.7868	- 1	3.2860
50	8.1486	- 1	2.8259	2.8873	- 1	3.2429
60	7.9821	- 1	2.7823	2.9675	- 1	3.2013
70	7.8258	- 1	2.7390	3.0323	- 1	3.1602
80	7.6748	- 1	2.6956	3.0842	- 1	3.1193
90	7.5253	- 1	2.6518	3.1250	- 1	3.0784
100	7.3741	- 1	2.6074	3.1558	- 1	3.0373
110	7.2184	- 1	2.5621	3.1771	- 1	2.9959
120	7.0557	- 1	2.5157	3.1894	- 1	2.9541
130	6.8833	- 1	2.4682	3.1928	- 1	2.9119
140	6.6985	- 1	2.4194	3.1871	- 1	2.8690
160	6.2793	- 1	2.3175	3.1470	- 1	2.7816
180	5.7717	- 1	2.2106	3.0637	- 1	2.6917
200	5.1491	- 1	2.1030	2.9283	- 1	2.6007
250	3.2004	- 1	1.9549	2.3327	- 1	2.4213
300	2.0725	- 1	2.2637	1.7648	- 1	2.4755
350	2.0480	- 1	2.6268	1.6170	- 1	2.6467
400	2.3049	- 1	2.7882	1.6656	- 1	2.7513
450	2.5509	- 1	2.8414	1.7556	- 1	2.7960
500	2.7457	- 1	2.8505	1.8525	- 1	2.8089
600	3.0172	- 1	2.8214	2.0524	- 1	2.7868
700	3.1967	- 1	2.7710	2.2642	- 1	2.7286

Table 10a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{emm} \rvert$		arg T_{em}	
0.1	7.9877	- 1	6.0537	4.1319	- 2	3.8106	
0.2	7.2979	- 1	5.9556	5.5501	- 2	3.7680	
0.5	6.1618	- 1	5.7524	7.9421	- 2	3.6917	
1	5.2229	- 1	5.5085	1.0082	- 1	3.6165	
2	4.4313	- 1	5.1468	1.2342	- 1	3.5251	
5	4.1445	- 1	4.5117	1.5068	- 1	3.3793	
9	4.5279	- 1	4.1276	1.6348	- 1	3.2703	
10	4.6295	- 1	4.0675	1.6520	- 1	3.2493	
11	4.7271	- 1	4.0156	1.6659	- 1	3.2299	
15	5.0696	- 1	3.8627	1.6990	- 1	3.1641	
25	5.6533	- 1	3.6581	1.7107	- 1	3.0451	
30	5.8514	- 1	3.5967	1.7017	- 1	2.9990	
40	6.1419	- 1	3.5099	1.6743	- 1	2.9216	
50	6.3458	- 1	3.4497	1.6438	- 1	2.8570	
60	6.4985	- 1	3.4044	1.6147	- 1	2.8007	
70	6.6189	- 1	3.3685	1.5884	- 1	2.7500	
80	6.7182	- 1	3.3387	1.5657	- 1	2.7031	
90	6.8033	- 1	3.3134	1.5464	- 1	2.6590	
100	6.8786	- 1	3.2912	1.5303	- 1	2.6167	
110	6.9471	- 1	3.2714	1.5171	- 1	2.5757	
120	7.0111	- 1	3.2534	1.5066	- 1	2.5354	
130	7.0720	- 1	3.2368	1.4982	- 1	2.4956	
140	7.1310	- 1	3.2212	1.4917	- 1	2.4558	
160	7.2461	- 1	3.1923	1.4824	- 1	2.3755	
180	7.3610	- 1	3.1651	1.4745	- 1	2.2931	
200	7.4778	- 1	3.1386	1.4624	- 1	2.2081	
250	7.7772	- 1	3.0705	1.3704	- 1	2.0089	
300	8.0702	- 1	2.9946	1.2647	- 1	1.9372	
350	8.2814	- 1	2.9086	1.3422	- 1	1.9144	
400	8.3732	- 1	2.8231	1.5108	- 1	1.8177	
450	8.3968	- 1	2.7430	1.6792	- 1	1.6777	
500	8.3877	- 1	2.6675	1.8307	- 1	1.5254	
600	8.3252	- 1	2.5252	2.0951	- 1	1.2243	
700	8.2320	- 1	2.3890	2.3333	- 1	9.4168	- 1

Table 10b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
0.1	9.9362	- 1	3.1343	4.2217	- 2	3.8321
0.2	9.9088	- 1	3.1308	5.7216	- 2	3.7984
0.5	9.8521	- 1	3.1232	8.3341	- 2	3.7398
1	9.7844	- 1	3.1139	1.0794	- 1	3.6843
2	9.6825	- 1	3.0998	1.3596	- 1	3.6208
5	9.4673	- 1	3.0698	1.7582	- 1	3.5291
9	9.2619	- 1	3.0402	2.0149	- 1	3.4685
10	9.2184	- 1	3.0337	2.0603	- 1	3.4575
11	9.1772	- 1	3.0275	2.1012	- 1	3.4475
15	9.0305	- 1	3.0045	2.2330	- 1	3.4144
25	8.7445	- 1	2.9549	2.4477	- 1	3.3553
30	8.6281	- 1	2.9323	2.5243	- 1	3.3314
40	8.4273	- 1	2.8896	2.6458	- 1	3.2882
50	8.2540	- 1	2.8486	2.7400	- 1	3.2480
60	8.0971	- 1	2.8083	2.8155	- 1	3.2090
70	7.9500	- 1	2.7684	2.8768	- 1	3.1705
80	7.8077	- 1	2.7283	2.9262	- 1	3.1321
90	7.6668	- 1	2.6879	2.9654	- 1	3.0937
100	7.5245	- 1	2.6470	2.9952	- 1	3.0550
110	7.3780	- 1	2.6052	3.0164	- 1	3.0161
120	7.2249	- 1	2.5626	3.0292	- 1	2.9768
130	7.0629	- 1	2.5190	3.0339	- 1	2.9371
140	6.8893	- 1	2.4742	3.0303	- 1	2.8970
160	6.4963	- 1	2.3809	2.9974	- 1	2.8152
180	6.0214	- 1	2.2832	2.9262	- 1	2.7314
200	5.4391	- 1	2.1844	2.8098	- 1	2.6469
250	3.5594	- 1	2.0325	2.2904	- 1	2.4744
300	2.3268	- 1	2.2946	1.7521	- 1	2.5133
350	2.2588	- 1	2.6437	1.5987	- 1	2.6772
400	2.5171	- 1	2.8048	1.6398	- 1	2.7814
450	2.7717	- 1	2.8602	1.7233	- 1	2.8280
500	2.9754	- 1	2.8722	1.8147	- 1	2.8438
600	3.2642	- 1	2.8492	2.0049	- 1	2.8285
700	3.4621	- 1	2.8047	2.2074	- 1	2.7780

Table 11a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}		$\lvert T_{em} \rvert$		arg T_{em}	
0.1	8.1357	- 1	6.0678		4.0497	- 2	3.8113	
0.2	7.4858	- 1	5.9732		5.4492	- 2	3.7663	
0.5	6.4002	- 1	5.7739		7.8152	- 2	3.6816	
1	5.4871	- 1	5.5304		9.9237	- 2	3.5923	
2	4.7065	- 1	5.1645		1.2107	- 1	3.4749	
5	4.4365	- 1	4.5080		1.4532	- 1	3.2635	
9	4.8407	- 1	4.0965		1.5408	- 1	3.0828	
10	4.9447	- 1	4.0302		1.5489	- 1	3.0456	
11	5.0434	- 1	3.9724		1.5541	- 1	3.0105	
15	5.3797	- 1	3.7983		1.5571	- 1	2.8854	
25	5.9028	- 1	3.5500		1.5215	- 1	2.6352	
30	6.0585	- 1	3.4701		1.5008	- 1	2.5290	
40	6.2541	- 1	3.3498		1.4668	- 1	2.3382	
50	6.3566	- 1	3.2594		1.4448	- 1	2.1671	
60	6.4043	- 1	3.1862		1.4333	- 1	2.0098	
70	6.4172	- 1	3.1241		1.4296	- 1	1.8634	
80	6.4066	- 1	3.0696		1.4311	- 1	1.7261	
90	6.3797	- 1	3.0209		1.4358	- 1	1.5970	
100	6.3412	- 1	2.9767		1.4420	- 1	1.4755	
110	6.2948	- 1	2.9362		1.4486	- 1	1.3611	
120	6.2429	- 1	2.8987		1.4547	- 1	1.2534	
130	6.1876	- 1	2.8638		1.4601	- 1	1.1521	
140	6.1306	- 1	2.8311		1.4643	- 1	1.0569	
160	6.0156	- 1	2.7712		1.4697	- 1	8.8306	- 1
180	5.9040	- 1	2.7169		1.4715	- 1	7.2894	- 1
200	5.7987	- 1	2.6667		1.4711	- 1	5.9144	- 1
250	5.5651	- 1	2.5524		1.4658	- 1	3.0269	- 1
300	5.3662	- 1	2.4467		1.4601	- 1	6.7196	- 2
350	5.1893	- 1	2.3447		1.4558	- 1	6.1474	
400	5.0243	- 1	2.2440		1.4526	- 1	5.9646	
450	4.8636	- 1	2.1435		1.4496	- 1	5.7946	
500	4.7016	- 1	2.0424		1.4457	- 1	5.6325	
600	4.3571	- 1	1.8382		1.4305	- 1	5.3200	
700	3.9660	- 1	1.6327		1.3963	- 1	5.0125	
800	3.5202	- 1	1.4325		1.3324	- 1	4.7060	
900	3.0395	- 1	1.2506		1.2342	- 1	4.4065	
1000	2.5749	- 1	1.1012		1.1118	- 1	4.1254	
1200	1.8665	- 1	9.0588	- 1	8.6921	- 2	3.6341	
1400	1.4523	- 1	7.7891	- 1	6.7438	- 2	3.1932	
1600	1.1853	- 1	6.4707	- 1	5.0704	- 2	2.7636	
1800	9.6346	- 2	5.0414	- 1	3.5719	- 2	2.3671	
2000	7.6903	- 2	3.8183	- 1	2.3888	- 2	2.0479	
2500	4.5121	- 2	2.1614	- 1	8.9463	- 3	1.5978	
3000	2.9543	- 2	1.5071	- 1	4.0304	- 3	1.4113	

Table 11b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.8625	- 1	3.1269		4.1360	- 2	3.8329	
0.2	9.8051	- 1	3.1203		5.6143	- 2	3.7973	
0.5	9.6898	- 1	3.1066		8.1929	- 2	3.7316	
1	9.5573	- 1	3.0904		1.0609	- 1	3.6647	
2	9.3657	- 1	3.0665		1.3307	- 1	3.5805	
5	8.9789	- 1	3.0172		1.6875	- 1	3.4404	
9	8.6237	- 1	2.9702		1.8821	- 1	3.3315	
10	8.5498	- 1	2.9601		1.9121	- 1	3.3102	
11	8.4802	- 1	2.9504		1.9377	- 1	3.2902	
15	8.2352	- 1	2.9150		2.0105	- 1	3.2212	
25	7.7662	- 1	2.8397		2.0915	- 1	3.0876	
30	7.5761	- 1	2.8058		2.1070	- 1	3.0311	
40	7.2431	- 1	2.7419		2.1131	- 1	2.9277	
50	6.9449	- 1	2.6815		2.0969	- 1	2.8321	
60	6.6634	- 1	2.6239		2.0646	- 1	2.7416	
70	6.3899	- 1	2.5691		2.0198	- 1	2.6552	
80	6.1206	- 1	2.5173		1.9646	- 1	2.5725	
90	5.8551	- 1	2.4690		1.9014	- 1	2.4935	
100	5.5945	- 1	2.4243		1.8319	- 1	2.4183	
110	5.3406	- 1	2.3836		1.7579	- 1	2.3469	
120	5.0958	- 1	2.3469		1.6810	- 1	2.2794	
130	4.8619	- 1	2.3143		1.6026	- 1	2.2160	
140	4.6407	- 1	2.2857		1.5240	- 1	2.1566	
160	4.2399	- 1	2.2392		1.3700	- 1	2.0495	
180	3.8961	- 1	2.2051		1.2244	- 1	1.9573	
200	3.6055	- 1	2.1807		1.0900	- 1	1.8787	
250	3.0670	- 1	2.1460		8.0486	- 2	1.7348	
300	2.7140	- 1	2.1294		5.8284	- 2	1.6636	
350	2.4725	- 1	2.1172		4.1242	- 2	1.6851	
400	2.2988	- 1	2.1039		2.9273	- 2	1.8554	
450	2.1675	- 1	2.0872		2.3814	- 2	2.2133	
500	2.0630	- 1	2.0663		2.5629	- 2	2.5835	
600	1.8985	- 1	2.0136		3.9623	- 2	2.8302	
700	1.7605	- 1	1.9517		5.5032	- 2	2.7401	
800	1.6321	- 1	1.8909		6.7895	- 2	2.5447	
900	1.5173	- 1	1.8421		7.6936	- 2	2.3113	
1000	1.4326	- 1	1.8081		8.1908	- 2	2.0704	
1200	1.3807	- 1	1.7333		8.3370	- 2	1.6122	
1400	1.4011	- 1	1.5720		7.8866	- 2	1.1721	
1600	1.3656	- 1	1.3241		6.9279	- 2	7.2993	- 1
1800	1.2186	- 1	1.0503		5.5436	- 2	3.1492	- 1
2000	1.0092	- 1	8.1502	- 1	4.1285	- 2	6.2569	
2500	5.8950	- 2	4.7363	- 1	1.9047	- 2	5.7438	
3000	3.7503	- 2	3.2429	- 1	9.9740	- 3	5.4917	

Table 12a

f, kc	$\|T_{ee}\|$		arg T_{ee}		$\|T_{em}\|$		arg T_{em}	
0.1	8.1346	- 1	6.0732		4.1549	- 2	3.8394	
0.2	7.4818	- 1	5.9839		5.6520	- 2	3.8074	
0.5	6.3803	- 1	5.8004		8.2881	- 2	3.7503	
1	5.4237	- 1	5.5818		1.0803	- 1	3.6945	
2	4.5228	- 1	5.2545		1.3704	- 1	3.6277	
5	3.8980	- 1	4.6307		1.7870	- 1	3.5235	
9	4.0270	- 1	4.2015		2.0536	- 1	3.4467	
10	4.0862	- 1	4.1305		2.1002	- 1	3.4318	
11	4.1463	- 1	4.0684		2.1418	- 1	3.4180	
15	4.3716	- 1	3.8812		2.2735	- 1	3.3702	
25	4.7666	- 1	3.6191		2.4727	- 1	3.2771	
30	4.8946	- 1	3.5369		2.5354	- 1	3.2374	
40	5.0682	- 1	3.4160		2.6191	- 1	3.1651	
50	5.1740	- 1	3.3274		2.6646	- 1	3.0991	
60	5.2397	- 1	3.2571		2.6836	- 1	3.0381	
70	5.2802	- 1	3.1981		2.6830	- 1	2.9813	
80	5.3039	- 1	3.1467		2.6675	- 1	2.9284	
90	5.3157	- 1	3.1008		2.6409	- 1	2.8792	
100	5.3190	- 1	3.0590		2.6060	- 1	2.8336	
110	5.3160	- 1	3.0202		2.5651	- 1	2.7914	
120	5.3080	- 1	2.9840		2.5202	- 1	2.7524	
130	5.2964	- 1	2.9497		2.4729	- 1	2.7166	
140	5.2818	- 1	2.9172		2.4245	- 1	2.6837	
160	5.2464	- 1	2.8559		2.3282	- 1	2.6259	
180	5.2056	- 1	2.7988		2.2370	- 1	2.5771	
200	5.1616	- 1	2.7447		2.1538	- 1	2.5355	
250	5.0445	- 1	2.6182		1.9848	- 1	2.4530	
300	4.9228	- 1	2.4992		1.8645	- 1	2.3872	
350	4.7966	- 1	2.3839		1.7800	- 1	2.3279	
400	4.6641	- 1	2.2703		1.7204	- 1	2.2697	
450	4.5226	- 1	2.1573		1.6780	- 1	2.2097	
500	4.3693	- 1	2.0443		1.6472	- 1	2.1465	
600	4.0177	- 1	1.8177		1.6040	- 1	2.0076	
700	3.5958	- 1	1.5935		1.5653	- 1	1.8519	
800	3.1118	- 1	1.3827		1.5145	- 1	1.6844	
900	2.6107	- 1	1.2026		1.4465	- 1	1.5147	
1000	2.1573	- 1	1.0660		1.3698	- 1	1.3505	
1200	1.5144	- 1	9.1162	- 1	1.2280	- 1	1.0336	
1400	1.1666	- 1	8.3871	- 1	1.0993	- 1	6.9708	- 1
1600	9.7270	- 2	7.6030	- 1	9.4236	- 2	3.2809	- 1
1800	8.2507	- 2	6.4769	- 1	7.4587	- 2	6.2459	
2000	6.8630	- 2	5.3071	- 1	5.5085	- 2	5.9383	
2500	4.2666	- 2	3.4179	- 1	2.4878	- 2	5.4835	
3000	2.8588	- 2	2.5306	- 1	1.2849	- 2	5.2734	

Table 12b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.8625	- 1	3.1269		4.0328	- 2	3.8095	
0.2	9.8052	- 1	3.1203		5.4184	- 2	3.7652	
0.5	9.6904	- 1	3.1066		7.7526	- 2	3.6837	
1	9.5589	- 1	3.0903		9.8282	- 2	3.6004	
2	9.3702	- 1	3.0660		1.1985	- 1	3.4949	
5	8.9927	- 1	3.0151		1.4440	- 1	3.3152	
9	8.6471	- 1	2.9649		1.5403	- 1	3.1705	
10	8.5750	- 1	2.9539		1.5503	- 1	3.1416	
11	8.5068	- 1	2.9433		1.5573	- 1	3.1146	
15	8.2644	- 1	2.9040		1.5652	- 1	3.0205	
25	7.7853	- 1	2.8185		1.5280	- 1	2.8410	
30	7.5833	- 1	2.7796		1.5002	- 1	2.7678	
40	7.2174	- 1	2.7066		1.4429	- 1	2.6399	
50	6.8798	- 1	2.6385		1.3895	- 1	2.5277	
60	6.5573	- 1	2.5748		1.3415	- 1	2.4256	
70	6.2447	- 1	2.5153		1.2986	- 1	2.3303	
80	5.9406	- 1	2.4601		1.2600	- 1	2.2402	
90	5.6457	- 1	2.4094		1.2250	- 1	2.1543	
100	5.3613	- 1	2.3633		1.1930	- 1	2.0722	
110	5.0893	- 1	2.3218		1.1636	- 1	1.9933	
120	4.8312	- 1	2.2847		1.1366	- 1	1.9176	
130	4.5882	- 1	2.2520		1.1117	- 1	1.8448	
140	4.3610	- 1	2.2233		1.0887	- 1	1.7749	
160	3.9546	- 1	2.1770		1.0485	- 1	1.6430	
180	3.6094	- 1	2.1430		1.0152	- 1	1.5207	
200	3.3189	- 1	2.1186		9.8819	- 2	1.4068	
250	2.7787	- 1	2.0848		9.4367	- 2	1.1509	
300	2.4192	- 1	2.0709		9.2332	- 2	9.2455	- 1
350	2.1684	- 1	2.0642		9.1843	- 2	7.1752	- 1
400	1.9844	- 1	2.0592		9.2281	- 2	5.2318	- 1
450	1.8433	- 1	2.0537		9.3205	- 2	3.3721	- 1
500	1.7305	- 1	2.0470		9.4284	- 2	1.5666	- 1
600	1.5579	- 1	2.0315		9.5879	- 2	6.0880	
700	1.4308	- 1	2.0187		9.5342	- 2	5.7442	
800	1.3422	- 1	2.0141		9.1627	- 2	5.4130	
900	1.2970	- 1	2.0137		8.5019	- 2	5.1076	
1000	1.2940	- 1	2.0030		7.7179	- 2	4.8382	
1200	1.3624	- 1	1.9079		6.3314	- 2	4.3869	
1400	1.4362	- 1	1.7065		5.2806	- 2	3.9776	
1600	1.4222	- 1	1.4276		4.2990	- 2	3.5658	
1800	1.2790	- 1	1.1287		3.2748	- 2	3.1728	
2000	1.0604	- 1	8.7183	- 1	2.3480	- 2	2.8466	
2500	6.1211	- 2	4.9906	- 1	1.0095	- 2	2.3671	
3000	3.8518	- 2	3.3772	- 1	5.0686	- 3	2.1464	

Table 13a

f, kc	$\|T_{ee}\|$		arg T_{ee}		$\|T_{em}\|$		arg T_{em}	
0.1	8.4791	- 1	6.1171		1.7661	- 3	1.4871	
0.2	7.9252	- 1	6.0476		3.4069	- 3	1.4549	
0.5	6.9494	- 1	5.9073		7.9351	- 3	1.3945	
1	6.0320	- 1	5.7440		1.4679	- 2	1.3315	
2	5.0290	- 1	5.5020		2.6382	- 2	1.2495	
5	3.8707	- 1	4.9975		5.3974	- 2	1.1044	
9	3.4839	- 1	4.5587		8.1514	- 2	9.8349	- 1
10	3.4548	- 1	4.4758		8.7341	- 2	9.5915	- 1
11	3.4387	- 1	4.4009		9.2838	- 2	9.3642	- 1
15	3.4460	- 1	4.1629		1.1210	- 1	8.5783	- 1
25	3.5940	- 1	3.8105		1.4731	- 1	7.1472	- 1
30	3.6656	- 1	3.6987		1.6049	- 1	6.6031	- 1
40	3.7789	- 1	3.5348		1.8146	- 1	5.7155	- 1
50	3.8576	- 1	3.4155		1.9765	- 1	5.0020	- 1
60	3.9111	- 1	3.3208		2.1073	- 1	4.3995	- 1
70	3.9463	- 1	3.2413		2.2167	- 1	3.8722	- 1
80	3.9678	- 1	3.1719		2.3105	- 1	3.3982	- 1
90	3.9791	- 1	3.1096		2.3927	- 1	2.9633	- 1
100	3.9822	- 1	3.0526		2.4659	- 1	2.5577	- 1
110	3.9789	- 1	2.9996		2.5321	- 1	2.1743	- 1
120	3.9703	- 1	2.9497		2.5925	- 1	1.8080	- 1
130	3.9572	- 1	2.9022		2.6481	- 1	1.4550	- 1
140	3.9403	- 1	2.8567		2.6997	- 1	1.1123	- 1
160	3.8971	- 1	2.7705		2.7931	- 1	4.4946	- 2
180	3.8432	- 1	2.6888		2.8756	- 1	6.2638	
200	3.7804	- 1	2.6103		2.9492	- 1	6.2006	
250	3.5893	- 1	2.4232		3.1001	- 1	6.0441	
300	3.3523	- 1	2.2432		3.2077	- 1	5.8858	
350	3.0671	- 1	2.0671		3.2687	- 1	5.7229	
400	2.7301	- 1	1.8963		3.2726	- 1	5.5546	
450	2.3429	- 1	1.7389		3.2032	- 1	5.3829	
500	1.9287	- 1	1.6150		3.0496	- 1	5.2157	
600	1.2466	- 1	1.5633		2.5916	- 1	4.9447	
700	9.3468	- 2	1.7241		2.1920	- 1	4.7687	
800	8.5076	- 2	1.9003		1.9184	- 1	4.6404	
900	8.5742	- 2	2.0077		1.7327	- 1	4.5298	
1000	8.9706	- 2	2.0498		1.6032	- 1	4.4230	
1200	1.0055	- 1	2.0015		1.4394	- 1	4.1934	
1400	1.1078	- 1	1.8313		1.3249	- 1	3.9174	
1600	1.1537	- 1	1.5748		1.1905	- 1	3.5887	
1800	1.0991	- 1	1.2744		9.9968	- 2	3.2325	
2000	9.5179	- 2	9.8824	- 1	7.7298	- 2	2.9011	
2500	5.5730	- 2	5.4227	- 1	3.5497	- 2	2.3784	
3000	3.4576	- 2	3.5555	- 1	1.8088	- 2	2.1457	

Table 13b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.8911	- 1	3.1306		1.7661	- 3	4.6287	
0.2	9.8465	- 1	3.1260		3.4069	- 3	4.5964	
0.5	9.7594	- 1	3.1169		7.9351	- 3	4.5361	
1	9.6635	- 1	3.1063		1.4679	- 2	4.4731	
2	9.5322	- 1	3.0909		2.6382	- 2	4.3911	
5	9.2867	- 1	3.0579		5.3974	- 2	4.2460	
9	9.0725	- 1	3.0234		8.1514	- 2	4.1251	
10	9.0280	- 1	3.0156		8.7341	- 2	4.1007	
11	8.9858	- 1	3.0079		9.2838	- 2	4.0780	
15	8.8340	- 1	2.9788		1.1210	- 1	3.9994	
25	8.5180	- 1	2.9133		1.4731	- 1	3.8563	
30	8.3780	- 1	2.8832		1.6049	- 1	3.8019	
40	8.1186	- 1	2.8270		1.8146	- 1	3.7131	
50	7.8790	- 1	2.7751		1.9765	- 1	3.6418	
60	7.6548	- 1	2.7267		2.1073	- 1	3.5815	
70	7.4433	- 1	2.6811		2.2167	- 1	3.5288	
80	7.2433	- 1	2.6380		2.3105	- 1	3.4814	
90	7.0536	- 1	2.5970		2.3927	- 1	3.4379	
100	6.8734	- 1	2.5579		2.4659	- 1	3.3974	
110	6.7021	- 1	2.5203		2.5321	- 1	3.3590	
120	6.5390	- 1	2.4840		2.5925	- 1	3.3224	
130	6.3834	- 1	2.4490		2.6481	- 1	3.2871	
140	6.2348	- 1	2.4150		2.6997	- 1	3.2528	
160	5.9562	- 1	2.3496		2.7931	- 1	3.1865	
180	5.6991	- 1	2.2869		2.8756	- 1	3.1222	
200	5.4596	- 1	2.2261		2.9492	- 1	3.0590	
250	4.9170	- 1	2.0792		3.1001	- 1	2.9025	
300	4.4224	- 1	1.9357		3.2077	- 1	2.7442	
350	3.9444	- 1	1.7930		3.2687	- 1	2.5813	
400	3.4595	- 1	1.6521		3.2726	- 1	2.4130	
450	2.9557	- 1	1.5198		3.2032	- 1	2.2413	
500	2.4457	- 1	1.4126		3.0496	- 1	2.0741	
600	1.6071	- 1	1.3515		2.5916	- 1	1.8031	
700	1.1692	- 1	1.4715		2.1920	- 1	1.6271	
800	9.9586	- 2	1.6422		1.9184	- 1	1.4988	
900	9.5184	- 2	1.7805		1.7327	- 1	1.3882	
1000	9.6835	- 2	1.8632		1.6032	- 1	1.2814	
1200	1.0713	- 1	1.8799		1.4394	- 1	1.0518	
1400	1.1874	- 1	1.7495		1.3249	- 1	7.7582	- 1
1600	1.2477	- 1	1.5174		1.1905	- 1	4.4709	- 1
1800	1.1987	- 1	1.2331		9.9969	- 2	9.0943	- 2
2000	1.0457	- 1	9.5809	- 1	7.7298	- 2	6.0427	
2500	6.2113	- 2	5.2740	- 1	3.5497	- 2	5.5200	
3000	3.8875	- 2	3.4729	- 1	1.8088	- 2	5.2873	

Table 14a

f, kc	$\|T_{ee}\|$		arg T_{ee}		$\|T_{em}\|$		arg T_{em}	
0.1	8.0669	- 1	6.0642		4.5195	- 2	3.8208	
0.2	7.3963	- 1	5.9708		6.0991	- 2	3.7817	
0.5	6.2753	- 1	5.7782		8.8051	- 2	3.7111	
1	5.3199	- 1	5.5479		1.1280	- 1	3.6410	
2	4.4546	- 1	5.2039		1.3972	- 1	3.5553	
5	3.9507	- 1	4.5674		1.7403	- 1	3.4177	
9	4.1663	- 1	4.1502		1.9191	- 1	3.3138	
10	4.2386	- 1	4.0825		1.9458	- 1	3.2937	
11	4.3096	- 1	4.0235		1.9682	- 1	3.2750	
15	4.5655	- 1	3.8466		2.0294	- 1	3.2110	
25	4.9974	- 1	3.5997		2.0866	- 1	3.0911	
30	5.1358	- 1	3.5223		2.0922	- 1	3.0422	
40	5.3234	- 1	3.4080		2.0827	- 1	2.9561	
50	5.4380	- 1	3.3242		2.0573	- 1	2.8798	
60	5.5098	- 1	3.2575		2.0220	- 1	2.8100	
70	5.5545	- 1	3.2016		1.9799	- 1	2.7451	
80	5.5813	- 1	3.1530		1.9328	- 1	2.6844	
90	5.5957	- 1	3.1097		1.8821	- 1	2.6277	
100	5.6012	- 1	3.0703		1.8289	- 1	2.5747	
110	5.6001	- 1	3.0338		1.7745	- 1	2.5254	
120	5.5941	- 1	2.9998		1.7198	- 1	2.4796	
130	5.5844	- 1	2.9678		1.6657	- 1	2.4374	
140	5.5719	- 1	2.9374		1.6129	- 1	2.3983	
160	5.5414	- 1	2.8804		1.5134	- 1	2.3292	
180	5.5065	- 1	2.8273		1.4236	- 1	2.2700	
200	5.4693	- 1	2.7772		1.3443	- 1	2.2186	
250	5.3737	- 1	2.6601		1.1860	- 1	2.1123	
300	5.2784	- 1	2.5499		1.0705	- 1	2.0232	
350	5.1833	- 1	2.4430		9.8263	- 2	1.9411	
400	5.0862	- 1	2.3374		9.1253	- 2	1.8618	
450	4.9847	- 1	2.2320		8.5398	- 2	1.7830	
500	4.8763	- 1	2.1261		8.0300	- 2	1.7040	
600	4.6290	- 1	1.9110		7.1436	- 2	1.5458	
700	4.3252	- 1	1.6905		6.3514	- 2	1.3912	
800	3.9494	- 1	1.4666		5.6221	- 2	1.2488	
900	3.4990	- 1	1.2467		4.9843	- 2	1.1277	
1000	3.0025	- 1	1.0445		4.4930	- 2	1.0278	
1200	2.0933	- 1	7.3645	- 1	3.9478	- 2	8.2724	- 1
1400	1.4666	- 1	5.4508	- 1	3.5986	- 2	5.5059	- 1
1600	1.0631	- 1	4.2568	- 1	3.1148	- 2	2.1082	- 1
1800	8.0010	- 2	3.5471	- 1	2.4677	- 2	6.1539	
2000	6.2678	- 2	3.1335	- 1	1.8307	- 2	5.8725	
2500	3.8777	- 2	2.5225	- 1	8.4951	- 3	5.4573	
3000	2.6685	- 2	2.1039	- 1	4.4787	- 3	5.2608	

Table 14b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.8567	- 1	3.1261		4.5195	- 2	3.8208	
0.2	9.7968	- 1	3.1191		6.0991	- 2	3.7817	
0.5	9.6762	- 1	3.1044		8.8051	- 2	3.7111	
1	9.5374	- 1	3.0869		1.1280	- 1	3.6410	
2	9.3370	- 1	3.0609		1.3972	- 1	3.5553	
5	8.9348	- 1	3.0062		1.7403	- 1	3.4177	
9	8.5666	- 1	2.9524		1.9191	- 1	3.3138	
10	8.4899	- 1	2.9407		1.9458	- 1	3.2937	
11	8.4174	- 1	2.9293		1.9682	- 1	3.2750	
15	8.1607	- 1	2.8873		2.0294	- 1	3.2110	
25	7.6569	- 1	2.7959		2.0866	- 1	3.0911	
30	7.4457	- 1	2.7541		2.0922	- 1	3.0422	
40	7.0632	- 1	2.6751		2.0827	- 1	2.9561	
50	6.7078	- 1	2.6008		2.0573	- 1	2.8798	
60	6.3641	- 1	2.5307		2.0220	- 1	2.8100	
70	6.0263	- 1	2.4651		1.9799	- 1	2.7451	
80	5.6937	- 1	2.4044		1.9328	- 1	2.6844	
90	5.3685	- 1	2.3491		1.8821	- 1	2.6277	
100	5.0538	- 1	2.2996		1.8289	- 1	2.5747	
110	4.7532	- 1	2.2559		1.7745	- 1	2.5254	
120	4.4694	- 1	2.2182		1.7198	- 1	2.4796	
130	4.2046	- 1	2.1862		1.6657	- 1	2.4374	
140	3.9601	- 1	2.1595		1.6129	- 1	2.3983	
160	3.5322	- 1	2.1205		1.5134	- 1	2.3292	
180	3.1804	- 1	2.0968		1.4236	- 1	2.2700	
200	2.8939	- 1	2.0845		1.3443	- 1	2.2186	
250	2.3867	- 1	2.0827		1.1860	- 1	2.1123	
300	2.0696	- 1	2.0997		1.0705	- 1	2.0232	
350	1.8606	- 1	2.1214		9.8263	- 2	1.9411	
400	1.7166	- 1	2.1425		9.1253	- 2	1.8618	
450	1.6145	- 1	2.1607		8.5397	- 2	1.7830	
500	1.5408	- 1	2.1752		8.0300	- 2	1.7040	
600	1.4495	- 1	2.1923		7.1436	- 2	1.5458	
700	1.4068	- 1	2.1932		6.3514	- 2	1.3912	
800	1.3961	- 1	2.1776		5.6221	- 2	1.2488	
900	1.4079	- 1	2.1444		4.9843	- 2	1.1277	
1000	1.4351	- 1	2.0925		4.4930	- 2	1.0278	
1200	1.5089	- 1	1.9298		3.9478	- 2	8.2724	- 1
1400	1.5537	- 1	1.6877		3.5986	- 2	5.5059	- 1
1600	1.4923	- 1	1.3886		3.1147	- 2	2.1082	- 1
1800	1.3039	- 1	1.0885		2.4677	- 2	6.1539	
2000	1.0625	- 1	8.4213	- 1	1.8307	- 2	5.8725	
2500	6.0899	- 2	4.8992	- 1	8.4954	- 3	5.4572	
3000	3.8399	- 2	3.3460	- 1	4.4802	- 3	5.2601	

Table 15a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}		$\lvert T_{em} \rvert$		arg T_{em}	
0.1	8.3940	- 1	6.1064		1.9427	- 2	3.8267	
0.2	7.8153	- 1	6.0320		2.6304	- 2	3.7884	
0.5	6.8087	- 1	5.8808		3.8196	- 2	3.7172	
1	5.8843	- 1	5.7033		4.9187	- 2	3.6437	
2	4.9180	- 1	5.4380		6.1221	- 2	3.5495	
5	3.9568	- 1	4.8946		7.6421	- 2	3.3871	
9	3.8044	- 1	4.4573		8.3888	- 2	3.2548	
10	3.8219	- 1	4.3791		8.4917	- 2	3.2282	
11	3.8481	- 1	4.3095		8.5752	- 2	3.2033	
15	3.9905	- 1	4.0945		8.7797	- 2	3.1161	
25	4.3390	- 1	3.7871		8.8708	- 2	2.9473	
30	4.4731	- 1	3.6910		8.8266	- 2	2.8775	
40	4.6736	- 1	3.5511		8.6789	- 2	2.7542	
50	4.8105	- 1	3.4503		8.5059	- 2	2.6454	
60	4.9058	- 1	3.3713		8.3344	- 2	2.5462	
70	4.9731	- 1	3.3061		8.1745	- 2	2.4538	
80	5.0208	- 1	3.2501		8.0296	- 2	2.3668	
90	5.0545	- 1	3.2008		7.9005	- 2	2.2839	
100	5.0779	- 1	3.1564		7.7868	- 2	2.2044	
110	5.0935	- 1	3.1158		7.6876	- 2	2.1279	
120	5.1032	- 1	3.0782		7.6018	- 2	2.0539	
130	5.1082	- 1	3.0429		7.5282	- 2	1.9820	
140	5.1097	- 1	3.0096		7.4658	- 2	1.9122	
160	5.1044	- 1	2.9476		7.3706	- 2	1.7779	
180	5.0914	- 1	2.8901		7.3090	- 2	1.6497	
200	5.0731	- 1	2.8360		7.2753	- 2	1.5270	
250	5.0131	- 1	2.7104		7.2832	- 2	1.2400	
300	4.9405	- 1	2.5934		7.3813	- 2	9.7569	- 1
350	4.8590	- 1	2.4809		7.5323	- 2	7.2836	- 1
400	4.7690	- 1	2.3707		7.7102	- 2	4.9358	- 1
450	4.6696	- 1	2.2616		7.8949	- 2	2.6781	- 1
500	4.5594	- 1	2.1528		8.0704	- 2	4.8192	- 2
600	4.2994	- 1	1.9343		8.3370	- 2	5.9020	
700	3.9752	- 1	1.7153		8.3981	- 2	5.4759	
800	3.5833	- 1	1.5012		8.1400	- 2	5.0481	
900	3.1466	- 1	1.3026		7.4929	- 2	4.6247	
1000	2.7132	- 1	1.1285		6.5186	- 2	4.2217	
1200	1.9802	- 1	8.5176	- 1	4.3027	- 2	3.5339	
1400	1.4419	- 1	6.5432	- 1	2.5900	- 2	3.0442	
1600	1.0712	- 1	5.2326	- 1	1.5752	- 2	2.7279	
1800	8.2174	- 2	4.3601	- 1	1.0105	- 2	2.5216	
2000	6.5005	- 2	3.7480	- 1	6.8473	- 3	2.3793	
2500	4.0087	- 2	2.7973	- 1	3.1070	- 3	2.1639	
3000	2.7339	- 2	2.2430	- 1	1.6791	- 3	2.0425	

Table 15b

f, kc	$\|T_{mm}\|$		arg T_{mm}		$\|T_{me}\|$		arg T_{me}	
0.1	9.8840	- 1	3.1297		1.9924	- 2	3.8519	
0.2	9.8362	- 1	3.1247		2.7261	- 2	3.8241	
0.5	9.7416	- 1	3.1146		4.0414	- 2	3.7737	
1	9.6352	- 1	3.1029		5.3274	- 2	3.7236	
2	9.4855	- 1	3.0861		6.8531	- 2	3.6626	
5	9.1919	- 1	3.0520		9.1312	- 2	3.5661	
9	8.9250	- 1	3.0196		1.0645	- 1	3.4954	
10	8.8692	- 1	3.0126		1.0913	- 1	3.4819	
11	8.8165	- 1	3.0059		1.1154	- 1	3.4695	
15	8.6289	- 1	2.9816		1.1922	- 1	3.4274	
25	8.2614	- 1	2.9309		1.3115	- 1	3.3503	
30	8.1103	- 1	2.9088		1.3512	- 1	3.3194	
40	7.8471	- 1	2.8685		1.4095	- 1	3.2655	
50	7.6190	- 1	2.8319		1.4502	- 1	3.2180	
60	7.4146	- 1	2.7980		1.4797	- 1	3.1747	
70	7.2272	- 1	2.7663		1.5012	- 1	3.1345	
80	7.0529	- 1	2.7365		1.5169	- 1	3.0966	
90	6.8894	- 1	2.7083		1.5282	- 1	3.0606	
100	6.7350	- 1	2.6816		1.5361	- 1	3.0263	
110	6.5889	- 1	2.6563		1.5413	- 1	2.9936	
120	6.4503	- 1	2.6322		1.5444	- 1	2.9621	
130	6.3186	- 1	2.6093		1.5459	- 1	2.9318	
140	6.1935	- 1	2.5875		1.5461	- 1	2.9025	
160	5.9617	- 1	2.5467		1.5437	- 1	2.8467	
180	5.7523	- 1	2.5092		1.5390	- 1	2.7939	
200	5.5631	- 1	2.4743		1.5330	- 1	2.7435	
250	5.1655	- 1	2.3959		1.5165	- 1	2.6250	
300	4.8538	- 1	2.3254		1.5016	- 1	2.5131	
350	4.6061	- 1	2.2590		1.4898	- 1	2.4040	
400	4.4052	- 1	2.1939		1.4812	- 1	2.2954	
450	4.2380	- 1	2.1284		1.4751	- 1	2.1854	
500	4.0943	- 1	2.0615		1.4704	- 1	2.0728	
600	3.8465	- 1	1.9211		1.4602	- 1	1.8360	
700	3.6145	- 1	1.7716		1.4382	- 1	1.5795	
800	3.3717	- 1	1.6157		1.3892	- 1	1.3016	
900	3.1118	- 1	1.4582		1.2986	- 1	1.0073	
1000	2.8397	- 1	1.3018		1.1640	- 1	7.0976	- 1
1200	2.2648	- 1	1.0017		8.2828	- 2	1.6678	- 1
1400	1.7102	- 1	7.5912	- 1	5.3454	- 2	6.0432	
1600	1.2807	- 1	5.9422	- 1	3.4349	- 2	5.7745	
1800	9.8119	- 2	4.8542	- 1	2.2966	- 2	5.5966	
2000	7.7325	- 2	4.1046	- 1	1.6055	- 2	5.4725	
2500	4.7230	- 2	2.9779	- 1	7.6576	- 3	5.2808	
3000	3.1987	- 2	2.3483	- 1	4.2597	- 3	5.1690	

Table 16a

f, kc	$\lvert T_{ee} \rvert$		$\arg T_{ee}$		$\lvert T_{em} \rvert$		$\arg T_{em}$	
0.1	8.2239	- 1	6.0848		3.4316	- 2	3.8155	
0.2	7.5960	- 1	6.0007		4.6231	- 2	3.7732	
0.5	6.5247	- 1	5.8287		6.6486	- 2	3.6952	
1	5.5752	- 1	5.6246		8.4743	- 2	3.6153	
2	4.6450	- 1	5.3188		1.0407	- 1	3.5136	
5	3.8983	- 1	4.7184		1.2691	- 1	3.3397	
9	3.9390	- 1	4.2823		1.3670	- 1	3.1992	
10	3.9862	- 1	4.2085		1.3785	- 1	3.1711	
11	4.0370	- 1	4.1436		1.3872	- 1	3.1448	
15	4.2411	- 1	3.9469		1.4030	- 1	3.0530	
25	4.6298	- 1	3.6703		1.3852	- 1	2.8771	
30	4.7621	- 1	3.5837		1.3657	- 1	2.8052	
40	4.9470	- 1	3.4567		1.3226	- 1	2.6792	
50	5.0639	- 1	3.3643		1.2803	- 1	2.5688	
60	5.1394	- 1	3.2912		1.2416	- 1	2.4686	
70	5.1883	- 1	3.2302		1.2068	- 1	2.3755	
80	5.2194	- 1	3.1774		1.1757	- 1	2.2878	
90	5.2380	- 1	3.1304		1.1478	- 1	2.2043	
100	5.2475	- 1	3.0878		1.1228	- 1	2.1242	
110	5.2502	- 1	3.0485		1.1003	- 1	2.0473	
120	5.2477	- 1	3.0118		1.0800	- 1	1.9732	
130	5.2413	- 1	2.9772		1.0617	- 1	1.9016	
140	5.2318	- 1	2.9443		1.0452	- 1	1.8324	
160	5.2058	- 1	2.8827		1.0168	- 1	1.7005	
180	5.1735	- 1	2.8252		9.9414	- 2	1.5766	
200	5.1369	- 1	2.7708		9.7630	- 2	1.4597	
250	5.0350	- 1	2.6440		9.4905	- 2	1.1929	
300	4.9242	- 1	2.5251		9.4025	- 2	9.5390	- 1
350	4.8068	- 1	2.4103		9.4361	- 2	7.3416	- 1
400	4.6819	- 1	2.2976		9.5444	- 2	5.2766	- 1
450	4.5474	- 1	2.1859		9.6916	- 2	3.3012	- 1
500	4.4011	- 1	2.0745		9.8494	- 2	1.3844	- 1
600	4.0647	- 1	1.8517		1.0103	- 1	6.0479	
700	3.6601	- 1	1.6322		1.0138	- 1	5.6807	
800	3.1946	- 1	1.4261		9.8334	- 2	5.3215	
900	2.7118	- 1	1.2498		9.1860	- 2	4.9811	
1000	2.2769	- 1	1.1148		8.3404	- 2	4.6698	
1200	1.6677	- 1	9.4259	- 1	6.6190	- 2	4.1230	
1400	1.3151	- 1	8.1064	- 1	5.0483	- 2	3.6319	
1600	1.0611	- 1	6.7084	- 1	3.6110	- 2	3.1967	
1800	8.4827	- 2	5.4367	- 1	2.4575	- 2	2.8542	
2000	6.7841	- 2	4.4747	- 1	1.6674	- 2	2.6098	
2500	4.1505	- 2	3.0895	- 1	7.1943	- 3	2.2667	
3000	2.8012	- 2	2.3856	- 1	3.7288	- 3	2.0969	

Table 16b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.8700	- 1	3.1279		3.5299	- 2	3.8437	
0.2	9.8161	- 1	3.1218		4.8115	- 2	3.8131	
0.5	9.7084	- 1	3.1094		7.0822	- 2	3.7583	
1	9.5858	- 1	3.0947		9.2669	- 2	3.7044	
2	9.4108	- 1	3.0731		1.1811	- 1	3.6395	
5	9.0621	- 1	3.0281		1.5513	- 1	3.5380	
9	8.7425	- 1	2.9842		1.7910	- 1	3.4634	
10	8.6756	- 1	2.9746		1.8330	- 1	3.4491	
11	8.6123	- 1	2.9654		1.8706	- 1	3.4358	
15	8.3873	- 1	2.9315		1.9899	- 1	3.3903	
25	7.9433	- 1	2.8589		2.1721	- 1	3.3037	
30	7.7577	- 1	2.8263		2.2308	- 1	3.2675	
40	7.4258	- 1	2.7657		2.3125	- 1	3.2025	
50	7.1256	- 1	2.7097		2.3625	- 1	3.1439	
60	6.8442	- 1	2.6573		2.3909	- 1	3.0898	
70	6.5753	- 1	2.6085		2.4035	- 1	3.0395	
80	6.3165	- 1	2.5630		2.4043	- 1	2.9925	
90	6.0669	- 1	2.5208		2.3960	- 1	2.9485	
100	5.8267	- 1	2.4819		2.3810	- 1	2.9074	
110	5.5965	- 1	2.4462		2.3609	- 1	2.8689	
120	5.3768	- 1	2.4136		2.3371	- 1	2.8328	
130	5.1680	- 1	2.3840		2.3108	- 1	2.7991	
140	4.9706	- 1	2.3571		2.2828	- 1	2.7676	
160	4.6098	- 1	2.3110		2.2247	- 1	2.7102	
180	4.2931	- 1	2.2736		2.1669	- 1	2.6595	
200	4.0173	- 1	2.2434		2.1118	- 1	2.6142	
250	3.4764	- 1	2.1899		1.9932	- 1	2.5180	
300	3.0932	- 1	2.1551		1.9035	- 1	2.4366	
350	2.8145	- 1	2.1290		1.8385	- 1	2.3618	
400	2.6051	- 1	2.1063		1.7924	- 1	2.2889	
450	2.4422	- 1	2.0844		1.7602	- 1	2.2149	
500	2.3114	- 1	2.0621		1.7378	- 1	2.1383	
600	2.1117	- 1	2.0155		1.7089	- 1	1.9730	
700	1.9652	- 1	1.9687		1.6825	- 1	1.7897	
800	1.8614	- 1	1.9243		1.6405	- 1	1.5909	
900	1.8029	- 1	1.8782		1.5738	- 1	1.3840	
1000	1.7852	- 1	1.8183		1.4870	- 1	1.1768	
1200	1.7880	- 1	1.6246		1.2844	- 1	7.6434	- 1
1400	1.7047	- 1	1.3488		1.0486	- 1	3.4807	- 1
1600	1.4810	- 1	1.0563		7.8957	- 2	6.2415	
1800	1.1949	- 1	8.1250	- 1	5.5897	- 2	5.9278	
2000	9.4063	- 2	6.3763	- 1	3.9099	- 2	5.7021	
2500	5.4592	- 2	3.9959	- 1	1.7731	- 2	5.3833	
3000	3.5461	- 2	2.8878	- 1	9.4540	- 3	5.2239	

Table 17a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}		$\lvert T_{em} \rvert$		arg T_{em}	
0.1	7.0304	- 1	5.9178		8.0369	- 2	3.7532	
0.2	6.1426	- 1	5.7582		1.0504	- 1	3.6945	
0.5	4.8923	- 1	5.4212		1.4311	- 1	3.5947	
1	4.1620	- 1	5.0267		1.7327	- 1	3.5021	
2	3.9521	- 1	4.5349		2.0086	- 1	3.3949	
5	4.5271	- 1	3.9524		2.2671	- 1	3.2288	
9	5.1074	- 1	3.6829		2.3363	- 1	3.1024	
10	5.2094	- 1	3.6419		2.3393	- 1	3.0775	
11	5.2994	- 1	3.6063		2.3394	- 1	3.0543	
15	5.5712	- 1	3.4997		2.3232	- 1	2.9733	
25	5.9262	- 1	3.3465		2.2436	- 1	2.8172	
30	6.0211	- 1	3.2962		2.2016	- 1	2.7520	
40	6.1365	- 1	3.2188		2.1245	- 1	2.6346	
50	6.1976	- 1	3.1587		2.0572	- 1	2.5268	
60	6.2288	- 1	3.1080		1.9967	- 1	2.4243	
70	6.2407	- 1	3.0634		1.9398	- 1	2.3250	
80	6.2385	- 1	3.0228		1.8840	- 1	2.2285	
90	6.2255	- 1	2.9855		1.8279	- 1	2.1350	
100	6.2041	- 1	2.9507		1.7709	- 1	2.0451	
110	6.1767	- 1	2.9183		1.7137	- 1	1.9595	
120	6.1454	- 1	2.8880		1.6572	- 1	1.8788	
130	6.1123	- 1	2.8595		1.6029	- 1	1.8030	
140	6.0788	- 1	2.8325		1.5517	- 1	1.7321	
160	6.0142	- 1	2.7824		1.4610	- 1	1.6031	
180	5.9554	- 1	2.7359		1.3869	- 1	1.4879	
200	5.9026	- 1	2.6919		1.3278	- 1	1.3830	
250	5.7899	- 1	2.5884		1.2296	- 1	1.1496	
300	5.6922	- 1	2.4902		1.1779	- 1	9.4082	- 1
350	5.5985	- 1	2.3947		1.1530	- 1	7.4568	- 1
400	5.5014	- 1	2.3006		1.1439	- 1	5.5842	- 1
450	5.3957	- 1	2.2070		1.1439	- 1	3.7559	- 1
500	5.2773	- 1	2.1136		1.1484	- 1	1.9494	- 1
600	4.9888	- 1	1.9271		1.1574	- 1	6.1179	
700	4.6156	- 1	1.7446		1.1480	- 1	5.7557	
800	4.1629	- 1	1.5776		1.1034	- 1	5.3963	
900	3.6912	- 1	1.4438		1.0223	- 1	5.0544	
1000	3.2999	- 1	1.3502		9.2274	- 2	4.7431	
1200	2.9152	- 1	1.2067		7.3438	- 2	4.1955	
1400	2.7919	- 1	9.8421	- 1	5.6702	- 2	3.6882	
1600	2.5597	- 1	6.8079	- 1	4.0711	- 2	3.2278	
1800	2.1941	- 1	3.6908	- 1	2.7678	- 2	2.8611	

Table 17b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.9168	- 1	3.1309		5.0311	- 2	3.7703	
0.2	9.8787	- 1	3.1253		6.6252	- 2	3.7181	
0.5	9.7958	- 1	3.1128		9.1636	- 2	3.6302	
1	9.6930	- 1	3.0972		1.1289	- 1	3.5490	
2	9.5367	- 1	3.0735		1.3420	- 1	3.4546	
5	9.2130	- 1	3.0221		1.5988	- 1	3.3005	
9	8.9158	- 1	2.9690		1.7444	- 1	3.1678	
10	8.8539	- 1	2.9570		1.7698	- 1	3.1392	
11	8.7954	- 1	2.9454		1.7929	- 1	3.1118	
15	8.5873	- 1	2.9010		1.8709	- 1	3.0095	
25	8.1653	- 1	2.7991		2.0270	- 1	2.7846	
30	7.9783	- 1	2.7507		2.1000	- 1	2.6829	
40	7.6189	- 1	2.6571		2.2461	- 1	2.4971	
50	7.2594	- 1	2.5674		2.3935	- 1	2.3323	
60	6.8900	- 1	2.4818		2.5382	- 1	2.1866	
70	6.5088	- 1	2.4013		2.6752	- 1	2.0578	
80	6.1195	- 1	2.3270		2.7994	- 1	1.9443	
90	5.7296	- 1	2.2601		2.9074	- 1	1.8448	
100	5.3485	- 1	2.2017		2.9977	- 1	1.7582	
110	4.9861	- 1	2.1522		3.0710	- 1	1.6840	
120	4.6502	- 1	2.1116		3.1297	- 1	1.6210	
130	4.3454	- 1	2.0792		3.1770	- 1	1.5684	
140	4.0733	- 1	2.0538		3.2163	- 1	1.5249	
160	3.6208	- 1	2.0193		3.2811	- 1	1.4599	
180	3.2705	- 1	1.9997		3.3382	- 1	1.4167	
200	2.9970	- 1	1.9889		3.3936	- 1	1.3882	
250	2.5284	- 1	1.9804		3.5330	- 1	1.3519	
300	2.2344	- 1	1.9816		3.6704	- 1	1.3367	
350	2.0318	- 1	1.9856		3.7996	- 1	1.3253	
400	1.8822	- 1	1.9906		3.9169	- 1	1.3108	
450	1.7667	- 1	1.9968		4.0205	- 1	1.2903	
500	1.6757	- 1	2.0047		4.1094	- 1	1.2627	
600	1.5522	- 1	2.0264		4.2428	- 1	1.1878	
700	1.5006	- 1	2.0489		4.3234	- 1	1.0921	
800	1.5119	- 1	2.0532		4.3753	- 1	9.8289	- 1
900	1.5618	- 1	2.0242		4.4353	- 1	8.6190	- 1
1000	1.6254	- 1	1.9616		4.5243	- 1	7.2390	- 1
1200	1.7387	- 1	1.7503		4.7208	- 1	3.7462	- 1
1400	1.7345	- 1	1.4461		4.6779	- 1	6.2118	
1600	1.5389	- 1	1.1195		4.1997	- 1	5.7283	
1800	1.2482	- 1	8.4945	- 1	3.5037	- 1	5.2716	

Table 18a

f, kc	$\|T_{ee}\|$		arg T_{ee}		$\|T_{em}\|$		arg T_{em}	
0.1	6.4527	- 1	5.8182		1.0705	- 1	3.7222	
0.2	5.5080	- 1	5.6102		1.3775	- 1	3.6571	
0.5	4.3763	- 1	5.1719		1.8289	- 1	3.5508	
1	3.9837	- 1	4.7032		2.1658	- 1	3.4563	
2	4.2115	- 1	4.2233		2.4548	- 1	3.3508	
5	5.0970	- 1	3.7512		2.6988	- 1	3.1918	
9	5.6943	- 1	3.5413		2.7450	- 1	3.0720	
10	5.7903	- 1	3.5090		2.7433	- 1	3.0483	
11	5.8732	- 1	3.4808		2.7390	- 1	3.0262	
15	6.1140	- 1	3.3953		2.7081	- 1	2.9489	
25	6.4058	- 1	3.2686		2.6067	- 1	2.7976	
30	6.4783	- 1	3.2256		2.5589	- 1	2.7330	
40	6.5605	- 1	3.1575		2.4749	- 1	2.6139	
50	6.5966	- 1	3.1023		2.4023	- 1	2.5008	
60	6.6050	- 1	3.0542		2.3341	- 1	2.3900	
70	6.5922	- 1	3.0106		2.2638	- 1	2.2805	
80	6.5613	- 1	2.9706		2.1872	- 1	2.1730	
90	6.5161	- 1	2.9339		2.1028	- 1	2.0697	
100	6.4614	- 1	2.9006		2.0132	- 1	1.9729	
110	6.4031	- 1	2.8704		1.9228	- 1	1.8841	
120	6.3459	- 1	2.8430		1.8363	- 1	1.8035	
130	6.2925	- 1	2.8177		1.7565	- 1	1.7304	
140	6.2439	- 1	2.7940		1.6846	- 1	1.6636	
160	6.1608	- 1	2.7498		1.5648	- 1	1.5445	
180	6.0933	- 1	2.7083		1.4724	- 1	1.4390	
200	6.0368	- 1	2.6684		1.4014	- 1	1.3426	
250	5.9243	- 1	2.5726		1.2866	- 1	1.1256	
300	5.8310	- 1	2.4802		1.2260	- 1	9.2805	- 1
350	5.7420	- 1	2.3895		1.1955	- 1	7.4099	- 1
400	5.6489	- 1	2.2998		1.1822	- 1	5.5975	- 1
450	5.5463	- 1	2.2104		1.1788	- 1	3.8150	- 1
500	5.4298	- 1	2.1209		1.1805	- 1	2.0436	- 1
600	5.1412	- 1	1.9421		1.1847	- 1	6.1321	
700	4.7620	- 1	1.7670		1.1711	- 1	5.7725	
800	4.2974	- 1	1.6076		1.1225	- 1	5.4143	
900	3.8109	- 1	1.4821		1.0372	- 1	5.0732	
1000	3.4080	- 1	1.3979		9.3392	- 2	4.7627	
1200	3.0179	- 1	1.2744		7.4148	- 2	4.2173	
1400	2.8947	- 1	1.0736		5.7265	- 2	3.7106	
1600	2.6486	- 1	8.0009	- 1	4.1080	- 2	3.2492	
1800	2.2699	- 1	5.3806	- 1	2.7839	- 2	2.8842	
2000	1.9078	- 1	3.1590	- 1	1.8797	- 2	2.6205	
2500	1.2979	- 1	6.0788		7.9875	- 3	2.2268	
3000	7.4814	- 2	5.3913		3.8832	- 3	2.0076	

Table 18b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.9481	- 1	3.1327		6.0049	- 2	3.7354	
0.2	9.9193	- 1	3.1272		7.7740	- 2	3.6749	
0.5	9.8494	- 1	3.1145		1.0448	- 1	3.5763	
1	9.7555	- 1	3.0984		1.2550	- 1	3.4880	
2	9.6069	- 1	3.0737		1.4531	- 1	3.3864	
5	9.2946	- 1	3.0196		1.6776	- 1	3.2170	
9	9.0091	- 1	2.9626		1.8067	- 1	3.0637	
10	8.9498	- 1	2.9495		1.8309	- 1	3.0299	
11	8.8938	- 1	2.9367		1.8536	- 1	2.9972	
15	8.6939	- 1	2.8876		1.9370	- 1	2.8745	
25	8.2803	- 1	2.7722		2.1403	- 1	2.6056	
30	8.0907	- 1	2.7164		2.2484	- 1	2.4868	
40	7.7120	- 1	2.6073		2.4765	- 1	2.2755	
50	7.3134	- 1	2.5013		2.7105	- 1	2.0943	
60	6.8837	- 1	2.3996		2.9354	- 1	1.9377	
70	6.4226	- 1	2.3042		3.1371	- 1	1.8012	
80	5.9408	- 1	2.2183		3.3044	- 1	1.6828	
90	5.4583	- 1	2.1449		3.4318	- 1	1.5815	
100	4.9995	- 1	2.0860		3.5216	- 1	1.4973	
110	4.5841	- 1	2.0412		3.5824	- 1	1.4295	
120	4.2211	- 1	2.0085		3.6244	- 1	1.3762	
130	3.9102	- 1	1.9855		3.6560	- 1	1.3352	
140	3.6461	- 1	1.9694		3.6829	- 1	1.3040	
160	3.2297	- 1	1.9510		3.7339	- 1	1.2632	
180	2.9217	- 1	1.9431		3.7881	- 1	1.2415	
200	2.6867	- 1	1.9404		3.8467	- 1	1.2313	
250	2.2892	- 1	1.9429		4.0042	- 1	1.2295	
300	2.0397	- 1	1.9494		4.1623	- 1	1.2384	
350	1.8658	- 1	1.9568		4.3101	- 1	1.2452	
400	1.7357	- 1	1.9650		4.4428	- 1	1.2449	
450	1.6337	- 1	1.9750		4.5583	- 1	1.2361	
500	1.5526	- 1	1.9875		4.6555	- 1	1.2186	
600	1.4443	- 1	2.0215		4.7939	- 1	1.1607	
700	1.4083	- 1	2.0578		4.8654	- 1	1.0800	
800	1.4376	- 1	2.0715		4.8989	- 1	9.8558	- 1
900	1.5040	- 1	2.0455		4.9402	- 1	8.8040	- 1
1000	1.5794	- 1	1.9825		5.0159	- 1	7.5911	- 1
1200	1.7082	- 1	1.7698		5.1909	- 1	4.4500	- 1
1400	1.7177	- 1	1.4635		5.0937	- 1	3.8401	- 2
1600	1.5310	- 1	1.1331		4.5084	- 1	5.8884	
1800	1.2427	- 1	8.6045	- 1	3.7053	- 1	5.5059	
2000	9.7750	- 2	6.6634	- 1	3.0131	- 1	5.1873	
2500	5.6287	- 2	3.9998	- 1	2.0190	- 1	4.4680	
3000	3.5910	- 2	2.7338	- 1	1.2786	- 1	3.5688	

Table 19a

f, kc	$\lvert T_{ee} \rvert$		arg T_{ee}		$\lvert T_{em} \rvert$		Arg T_{em}	
0.1	8.1341	- 1	6.0784		4.1377	- 2	3.8372	
0.2	7.4797	- 1	5.9943		5.6204	- 2	3.8053	
0.5	6.3678	- 1	5.8263		8.2233	- 2	3.7499	
1	5.3801	- 1	5.6321		1.0703	- 1	3.6975	
2	4.3871	- 1	5.3466		1.3576	- 1	3.6371	
5	3.4493	- 1	4.7773		1.7790	- 1	3.5481	
10	3.3022	- 1	4.2616		2.1130	- 1	3.4739	
11	3.3189	- 1	4.1938		2.1595	- 1	3.4629	
15	3.4151	- 1	3.9866		2.3110	- 1	3.4252	
20	3.5396	- 1	3.8152		2.4520	- 1	3.3859	
50	3.9204	- 1	3.3870		2.8780	- 1	3.2038	
60	3.9713	- 1	3.3167		2.9443	- 1	3.1505	
70	4.0071	- 1	3.2593		2.9885	- 1	3.0996	
80	4.0331	- 1	3.2103		3.0149	- 1	3.0509	
90	4.0527	- 1	3.1671		3.0268	- 1	3.0045	
100	4.0677	- 1	3.1279		3.0269	- 1	2.9606	
110	4.0790	- 1	3.0918		3.0178	- 1	2.9190	
120	4.0875	- 1	3.0579		3.0014	- 1	2.8799	
130	4.0935	- 1	3.0258		2.9798	- 1	2.8431	
140	4.0972	- 1	2.9950		2.9544	- 1	2.8086	
160	4.0987	- 1	2.9367		2.8973	- 1	2.7456	
180	4.0934	- 1	2.8817		2.8380	- 1	2.6895	
200	4.0828	- 1	2.8292		2.7807	- 1	2.6389	
250	4.0394	- 1	2.7059		2.6561	- 1	2.5278	
300	3.9807	- 1	2.5900		2.5592	- 1	2.4285	
350	3.9121	- 1	2.4782		2.4832	- 1	2.3339	
400	3.8352	- 1	2.3684		2.4213	- 1	2.2405	
450	3.7495	- 1	2.2595		2.3683	- 1	2.1467	
500	3.6540	- 1	2.1505		2.3203	- 1	2.0515	
900	2.3902	- 1	1.2892		1.8502	- 1	1.2356	
1000	1.9850	- 1	1.1234		1.6866	- 1	1.0412	
1200	1.3428	- 1	9.3119	- 1	1.3920	- 1	6.9145	- 1
1400	9.8513	- 2	8.7967	- 1	1.1585	- 1	3.5010	- 1
1600	8.1594	- 2	8.5469	- 1	9.3493	- 2	6.2736	
1800	7.1308	- 2	7.7868	- 1	7.0466	- 2	5.9275	
2000	6.1466	- 2	6.7294	- 1	5.0226	- 2	5.6446	
2500	4.0430	- 2	4.6787	- 1	2.1636	- 2	5.2430	
3000	2.7730	- 2	3.5655	- 1	1.0909	- 2	5.0691	
5000	9.8519	- 3	1.8554	- 1	1.8930	- 3	4.8654	

Table 19b

f, kc	$\lvert T_{mm} \rvert$		arg T_{mm}		$\lvert T_{me} \rvert$		arg T_{me}	
0.1	9.8625	- 1	3.1269		4.0513	- 2	3.8166	
0.2	9.8053	- 1	3.1203		5.4552	- 2	3.7767	
0.5	9.6906	- 1	3.1066		7.8442	- 2	3.7057	
1	9.5596	- 1	3.0902		1.0012	- 1	3.6366	
2	9.3720	- 1	3.0659		1.2352	- 1	3.5545	
5	8.9977	- 1	3.0144		1.5316	- 1	3.4287	
10	8.5805	- 1	2.9515		1.7101	- 1	3.3239	
11	8.5116	- 1	2.9406		1.7299	- 1	3.3090	
15	8.2639	- 1	2.8997		1.7857	- 1	3.2600	
20	7.9963	- 1	2.8535		1.8257	- 1	3.2137	
50	6.7346	- 1	2.6300		1.9085	- 1	3.0479	
60	6.3642	- 1	2.5702		1.9244	- 1	3.0036	
70	6.0106	- 1	2.5171		1.9376	- 1	2.9596	
80	5.6755	- 1	2.4707		1.9473	- 1	2.9153	
90	5.3611	- 1	2.4307		1.9529	- 1	2.8710	
100	5.0694	- 1	2.3969		1.9545	- 1	2.8268	
110	4.8014	- 1	2.3687		1.9521	- 1	2.7831	
120	4.5576	- 1	2.3456		1.9463	- 1	2.7401	
130	4.3375	- 1	2.3270		1.9376	- 1	2.6982	
140	4.1401	- 1	2.3121		1.9266	- 1	2.6573	
160	3.8066	- 1	2.2912		1.8999	- 1	2.5790	
180	3.5425	- 1	2.2782		1.8700	- 1	2.5050	
200	3.3326	- 1	2.2693		1.8394	- 1	2.4346	
250	2.9661	- 1	2.2522		1.7674	- 1	2.2703	
300	2.7301	- 1	2.2313		1.7055	- 1	2.1154	
350	2.5599	- 1	2.2035		1.6521	- 1	1.9645	
400	2.4250	- 1	2.1697		1.6044	- 1	1.8148	
450	2.3098	- 1	2.1312		1.5601	- 1	1.6649	
500	2.2057	- 1	2.0895		1.5169	- 1	1.5138	
900	1.5066	- 1	1.8102		1.0710	- 1	2.7409	- 1
1000	1.4092	- 1	1.7899		9.3226	- 2	6.2729	
1200	1.3636	- 1	1.7342		7.0058	- 2	5.7714	
1400	1.3952	- 1	1.5764		5.3589	- 2	5.3047	
1600	1.3651	- 1	1.3271		4.0167	- 2	4.8357	
1800	1.2193	- 1	1.0516		2.8346	- 2	4.3917	
2000	1.0097	- 1	8.1545	- 1	1.9043	- 2	4.0210	
2500	5.8958	- 2	4.7363	- 1	7.2601	- 3	3.4351	
3000	3.7504	- 2	3.2427	- 1	3.3402	- 3	3.1144	
5000	1.1934	- 2	1.4343	- 1	4.7622	- 4	2.5366	

Table 20

$N = 10^3$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 0$ $\phi_a = 0$

f, kc	ν	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
10	0	9.9841	- 1	5.9879	5.6404	- 2	1.4088	
10	10^6	3.4326	- 1	4.8070	8.0119	- 2	9.3737	- 1
10	$4(10^6)$	4.7778	- 1	3.8325	5.7508	- 2	9.1968	- 1
10	$2(10^7)$	6.4307	- 1	3.3383	2.9182	- 2	7.8223	- 1
10	10^8	6.5471	- 1	3.0070	1.2215	- 2	5.5561	- 1

f, kc	v	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	0	9.9841	- 1	3.1129	5.6404	- 2	4.5504
10	10^6	9.7612	- 1	3.1006	8.0119	- 2	4.0790
10	$4(10^6)$	9.4888	- 1	3.0802	5.7508	- 2	4.0613
10	$2(10^7)$	8.8429	- 1	3.0158	2.9182	- 2	3.9238
10	10^8	7.5707	- 1	2.8663	1.2215	- 2	3.6972

Table 21

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 0$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
10	0°	3.8520	- 1	5.1847	7.7035	- 2	1.0045	
20		3.3260	- 1	4.7718	1.1606	- 1	8.4494	- 1
40		3.4749	- 1	4.3422	1.6362	- 1	6.9142	- 1
100		4.7570	- 1	3.8661	2.3983	- 1	4.5918	- 1
135		5.4110	- 1	3.7041	2.6521	- 1	3.5572	- 1
10	60°	7.6546	- 1	4.2230	6.3613	- 2	9.8680	- 1
20		8.6128	- 1	3.7396	9.1781	- 2	6.7418	- 1
40		9.1801	- 1	3.3971	1.1259	- 1	3.9851	- 1
100		9.4061	- 1	3.0457	1.2418	- 1	1.0154	- 1
135		9.3591	- 1	2.9151	1.2237	- 1	1.4447	- 2
10	120°	7.6546	- 1	4.2230	6.3613	- 2	4.1284	
20		8.6128	- 1	3.7396	9.1781	- 2	3.8158	
40		9.1801	- 1	3.3971	1.1259	- 1	3.5401	
100		9.4061	- 1	3.0457	1.2418	- 1	3.2431	
135		9.3591	- 1	2.9151	1.2237	- 1	3.1560	
10	180°	3.8520	- 1	5.1847	7.7035	- 2	4.1461	
20		3.3260	- 1	4.7718	1.1606	- 1	3.9865	
40		3.4749	- 1	4.3422	1.6362	- 1	3.8330	
100		4.7570	- 1	3.8661	2.3983	- 1	3.6008	
135		5.4110	- 1	3.7041	2.6521	- 1	3.4973	
10	240°	4.9333	- 1	6.0468	2.1691	- 2	3.8250	
20		4.6872	- 1	6.0322	2.7584	- 2	3.6379	
40		4.6149	- 1	5.9241	3.2029	- 2	3.4884	
100		4.7236	- 1	5.5055	3.4476	- 2	3.3549	
135		4.8350	- 1	5.2549	3.3192	- 2	3.3255	
10	300°	4.9333	- 1	6.0468	2.1691	- 2	6.8345	- 1
20		4.6872	- 1	6.0322	2.7584	- 2	4.9635	- 1
40		4.6149	- 1	5.9241	3.2029	- 2	3.4680	- 1
100		4.7236	- 1	5.5055	3.4476	- 2	2.1327	- 1
135		4.8350	- 1	5.2549	3.3193	- 2	1.8396	- 1

Table 22

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 45^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	0°	4.3513	- 1	4.1620	1.4583	- 1	3.1964
20		5.0135	- 1	3.7977	1.4819	- 1	3.0138
40		5.6866	- 1	3.5417	1.4110	- 1	2.7954
100		6.3884	- 1	3.3115	1.2904	- 1	2.4254
135		6.6276	- 1	3.2478	1.3030	- 1	2.2651
10	60°	6.1546	- 1	3.9946	1.4514	- 1	3.0116
20		7.2836	- 1	3.6696	1.4526	- 1	2.6921
40		8.1925	- 1	3.4195	1.4275	- 1	2.2664
100		8.7957	- 1	3.1369	1.6990	- 1	1.5939
135		8.8250	- 1	3.0356	1.9941	- 1	1.3690
10	120°	6.1546	- 1	3.9946	1.7093	- 1	3.2738
20		7.2836	- 1	3.6696	1.8037	- 1	3.1096
40		8.1925	- 1	3.4195	1.8360	- 1	2.9075
100		8.7957	- 1	3.1369	1.9497	- 1	2.4354
135		8.8250	- 1	3.0356	2.0635	- 1	2.1539
10	180°	4.3513	- 1	4.1620	2.0692	- 1	3.5270
20		5.0135	- 1	3.7977	2.4469	- 1	3.4629
40		5.6866	- 1	3.5417	2.8636	- 1	3.3770
100		6.3884	- 1	3.3115	3.4207	- 1	3.1499
135		6.6276	- 1	3.2478	3.5267	- 1	3.0173
10	240°	2.7824	- 1	4.4382	2.0964	- 1	3.6033
20		2.7841	- 1	3.9577	2.5735	- 1	3.5788
40		2.9140	- 1	3.5951	3.2090	- 1	3.5409
100		2.7798	- 1	3.3613	4.5267	- 1	3.3621
135		2.7269	- 1	3.4169	5.0738	- 1	3.2144
10	300°	2.7824	- 1	4.4382	1.7790	- 1	3.5165
20		2.7841	- 1	3.9577	2.0672	- 1	3.5016
40		2.9140	- 1	3.5951	2.4668	- 1	3.5094
100		2.7798	- 1	3.3613	3.6476	- 1	3.4118
135		2.7269	- 1	3.4169	4.2820	- 1	3.2644

Table 23

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 84.270^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		$\arg T_{ee}$	$\lvert T_{em} \rvert$		$\arg T_{em}$
10	0°	4.8331	- 1	4.0076	1.8759	- 1	3.3260
20		5.6639	- 1	3.7060	2.0125	- 1	3.2117
40		6.4440	- 1	3.4914	2.0734	- 1	3.0769
100		7.2081	- 1	3.2810	2.0397	- 1	2.8160
135		7.4194	- 1	3.2198	1.9936	- 1	2.6787
10	60°	5.0429	- 1	3.9906	1.8695	- 1	3.3083
20		5.9252	- 1	3.6939	1.9961	- 1	3.1823
40		6.7374	- 1	3.4803	2.0453	- 1	3.0274
100		7.5038	- 1	3.2654	2.0014	- 1	2.7033
135		7.6963	- 1	3.2011	1.9509	- 1	2.5217
10	120°	5.0429	- 1	3.9906	1.9080	- 1	3.3288
20		5.9252	- 1	3.6939	2.0558	- 1	3.2110
40		6.7374	- 1	3.4803	2.1344	- 1	3.0665
100		7.5038	- 1	3.2654	2.1334	- 1	2.7551
135		7.6963	- 1	3.2011	2.0861	- 1	2.5768
10	180°	4.8331	- 1	4.0076	1.9541	- 1	3.3645
20		5.6639	- 1	3.7060	2.1348	- 1	3.2641
40		6.4440	- 1	3.4914	2.2589	- 1	3.1448
100		7.2081	- 1	3.2810	2.3242	- 1	2.8946
135		7.4194	- 1	3.2198	2.2923	- 1	2.7552
10	240°	4.6251	- 1	4.0253	1.9609	- 1	3.3806
20		5.4023	- 1	3.7180	2.1532	- 1	3.2904
40		6.1465	- 1	3.5013	2.2944	- 1	3.1882
100		6.8956	- 1	3.2940	2.4039	- 1	2.9897
135		7.1159	- 1	3.2354	2.4105	- 1	2.8839
10	300°	4.6251	- 1	4.0253	1.9213	- 1	3.3627
20		5.4023	- 1	3.7180	2.0907	- 1	3.2667
40		6.1465	- 1	3.5013	2.1987	- 1	3.1591
100		6.8956	- 1	3.2940	2.2552	- 1	2.9626
135		7.1159	- 1	3.2354	2.2540	- 1	2.8617

Table 24

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 90^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	0°	4.8406	- 1	4.0055	1.9170	- 1	3.3450
20		5.6734	- 1	3.7048	2.0750	- 1	3.2377
40		6.4548	- 1	3.4908	2.1662	- 1	3.1110
100		7.2199	- 1	3.2807	2.1787	- 1	2.8558
135		7.4307	- 1	3.2195	2.1383	- 1	2.7174
				$\phi_i = 82^\circ$			
10	240°	5.2862	- 1	3.8488	1.7076	- 1	3.3226
				$\phi_i = 80.397^\circ$			
10	240°	4.8406	- 1	4.0055	1.9170	- 1	3.3450

Table 25

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^o$ $H_m = 0.5$ $I = 0$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}	
10	0^o	9.7438	- 1	3.0978	7.7035	- 2	4.1461	
20		9.6296	- 1	3.0681	1.1606	- 1	3.9865	
40		9.4453	- 1	3.0176	1.6362	- 1	3.8330	
100		9.0460	- 1	2.8886	2.3983	- 1	3.6008	
135		8.8542	- 1	2.8171	2.6521	- 1	3.4973	
10	60^o	9.7143	- 1	3.1062	6.3613	- 2	4.1284	
20		9.5874	- 1	3.0885	9.1781	- 2	3.8158	
40		9.4240	- 1	3.0624	1.1259	- 1	3.5401	
100		9.2102	- 1	2.9974	1.2418	- 1	3.2431	
135		9.1564	- 1	2.9598	1.2237	- 1	3.1560	
10	120^o	9.7143	- 1	3.1062	6.3613	- 2	9.8680	- 1
20		9.5874	- 1	3.0885	9.1781	- 2	6.7418	- 1
40		9.4240	- 1	3.0624	1.1259	- 1	3.9851	- 1
100		9.2102	- 1	2.9974	1.2418	- 1	1.0154	- 1
135		9.1564	- 1	2.9598	1.2237	- 1	1.4447	- 2
10	180^o	9.7438	- 1	3.0978	7.7035	- 2	1.0045	
20		9.6296	- 1	3.0681	1.1606	- 1	8.4494	- 1
40		9.4453	- 1	3.0176	1.6362	- 1	6.9142	- 1
100		9.0460	- 1	2.8886	2.3983	- 1	4.5918	- 1
135		8.8542	- 1	2.8171	2.6521	- 1	3.5572	- 1
10	240^o	9.7129	- 1	3.1081	2.1691	- 2	6.8345	- 1
20		9.6017	- 1	3.0915	2.7584	- 2	4.9635	- 1
40		9.4624	- 1	3.0652	3.2029	- 2	3.4681	- 1
100		9.2704	- 1	2.9970	3.4476	- 2	2.1326	- 1
135		9.2163	- 1	2.9575	3.3192	- 2	1.8395	- 1
10	300^o	9.7129	- 1	3.1081	2.1691	- 2	3.8250	
20		9.6017	- 1	3.0915	2.7584	- 2	3.6379	
40		9.4624	- 1	3.0652	3.2029	- 2	3.4884	
100		9.2704	- 1	2.9970	3.4476	- 2	3.3549	
135		9.2163	- 1	2.9575	3.3193	- 2	3.3255	

Table 26

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 45^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	0°	9.3018	- 1	3.0450	2.0692	- 1	3.5270
20		8.9918	- 1	2.9951	2.4469	- 1	3.4629
40		8.5682	- 1	2.9141	2.8636	- 1	3.3770
100		7.6535	- 1	2.7042	3.4207	- 1	3.1499
135		7.1168	- 1	2.5844	3.5267	- 1	3.0173
10	60°	9.2466	- 1	3.0556	1.7093	- 1	3.2738
20		8.9075	- 1	3.0234	1.8037	- 1	3.1096
40		8.5088	- 1	2.9815	1.8360	- 1	2.9075
100		8.0040	- 1	2.8789	1.9497	- 1	2.4354
135		7.8433	- 1	2.8117	2.0635	- 1	2.1539
10	120°	9.2466	- 1	3.0556	1.4514	- 1	3.0116
20		8.9075	- 1	3.0234	1.4526	- 1	2.6921
40		8.5088	- 1	2.9815	1.4275	- 1	2.2664
100		8.0040	- 1	2.8789	1.6990	- 1	1.5939
135		7.8433	- 1	2.8117	1.9941	- 1	1.3690
10	180°	9.3018	- 1	3.0450	1.4583	- 1	3.1964
20		8.9918	- 1	2.9951	1.4819	- 1	3.0138
40		8.5682	- 1	2.9141	1.4110	- 1	2.7954
100		7.6535	- 1	2.7042	1.2904	- 1	2.4254
135		7.1168	- 1	2.5844	1.3030	- 1	2.2651
10	240°	9.3195	- 1	3.0413	1.7790	- 1	3.5165
20		9.0042	- 1	2.9845	2.0672	- 1	3.5016
40		8.4983	- 1	2.8885	2.4668	- 1	3.5094
100		6.8531	- 1	2.6571	3.6476	- 1	3.4118
135		5.6778	- 1	2.5862	4.2820	- 1	3.2644
10	300°	9.3195	- 1	3.0413	2.0964	- 1	3.6033
20		9.0042	- 1	2.9845	2.5735	- 1	3.5788
40		8.4983	- 1	2.8885	3.2090	- 1	3.5409
100		6.8531	- 1	2.6571	4.5267	- 1	3.3621
135		5.6778	- 1	2.5862	5.0738	- 1	3.2144

Table 27

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 84.270^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	0°	9.1557	- 1	3.0251	1.9541	- 1	3.3645
20		8.7908	- 1	2.9661	2.1348	- 1	3.2641
40		8.3253	- 1	2.8705	2.2589	- 1	3.1448
100		7.4510	- 1	2.6008	2.3241	- 1	2.8946
135		6.9046	- 1	2.4235	2.2923	- 1	2.7552
10	60°	9.1490	- 1	3.0264	1.9080	- 1	3.3288
20		8.7801	- 1	2.9696	2.0558	- 1	3.2110
40		8.3147	- 1	2.8790	2.1344	- 1	3.0665
100		7.4874	- 1	2.6260	2.1334	- 1	2.7551
135		6.9992	- 1	2.4595	2.0861	- 1	2.5768
10	120°	9.1490	- 1	3.0264	1.8695	- 1	3.3083
20		8.7801	- 1	2.9696	1.9961	- 1	3.1823
40		8.3147	- 1	2.8790	2.0453	- 1	3.0274
100		7.4874	- 1	2.6260	2.0014	- 1	2.7033
135		6.9992	- 1	2.4595	1.9509	- 1	2.5217
10	180°	9.1557	- 1	3.0251	1.8759	- 1	3.3260
20		8.7908	- 1	2.9661	2.0125	- 1	3.2117
40		8.3253	- 1	2.8705	2.0734	- 1	3.0769
100		7.4510	- 1	2.6008	2.0397	- 1	2.8160
135		6.9046	- 1	2.4235	1.9936	- 1	2.6787
10	240°	9.1618	- 1	3.0239	1.9213	- 1	3.3627
20		8.8004	- 1	2.9629	2.0907	- 1	3.2667
40		8.3337	- 1	2.8627	2.1987	- 1	3.1591
100		7.4055	- 1	2.5770	2.2552	- 1	2.9626
135		6.7896	- 1	2.3892	2.2540	- 1	2.8617
10	300°	9.1618	- 1	3.0239	1.9609	- 1	3.3806
20		8.8004	- 1	2.9629	2.1532	- 1	3.2904
40		8.3337	- 1	2.8627	2.2944	- 1	3.1882
100		7.4055	- 1	2.5770	2.4039	- 1	2.9897
135		6.7896	- 1	2.3892	2.4105	- 1	2.8839

Table 28

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 90^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	0°	9.1533	- 1	3.0247	1.9170	- 1	3.3450
20		8.7876	- 1	2.9656	2.0750	- 1	3.2377
40		8.3215	- 1	2.8698	2.1662	- 1	3.1110
100		7.4487	- 1	2.5990	2.1787	- 1	2.8558
135		6.9023	- 1	2.4206	2.1383	- 1	2.7174
				$\phi_i = 82^\circ$			
10	240°	9.2646	- 1	3.0427	1.7076	- 1	3.3226
				$\phi_i = 80.397^\circ$			
10	240°	9.1533	- 1	3.0247	1.9170	- 1	3.3450

Table 29

Table 26.

$\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0$ $I = 0$ $\phi_a = 0$

f, kc	N	$\lvert T_{ee} \rvert$		arg T_{ee}
10	10^3	6.4519	- 1	3.3419
12		6.5469	- 1	3.3009
14		6.6116	- 1	3.2675
16		6.6559	- 1	3.2393
18		6.6857	- 1	3.2149
20		6.7049	- 1	3.1933
22		6.7161	- 1	3.1740
10	$3(10^3)$	5.5219	- 1	3.6488
12		5.7122	- 1	3.5881
14		5.8647	- 1	3.5405
16		5.9893	- 1	3.5017
18		6.0928	- 1	3.4692
20		6.1799	- 1	3.4413
22		6.2539	- 1	3.4169

f, kc		$\lvert T_{mm} \rvert$		arg T_{mm}
10	10^3	8.8370	- 1	3.0179
12		8.7334	- 1	3.0061
14		8.6392	- 1	2.9952
16		8.5524	- 1	2.9851
18		8.4718	- 1	2.9756
20		8.3962	- 1	2.9666
22		8.3250	- 1	2.9580
10	$3(10^3)$	9.3116	- 1	3.0701
12		9.2486	- 1	3.0633
14		9.1911	- 1	3.0570
16		9.1379	- 1	3.0511
18		9.0882	- 1	3.0456
20		9.0416	- 1	3.0404
22		8.9974	- 1	3.0354

Table 30

$N = 10^3$ $\nu = 2(10^7)$ $H_m = 0.5$ $\phi_i = 82^\circ$ $I = 0$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
10	85°	7.2131	- 1	3.3250	2.6656	- 3	7.7741	- 1
20		7.4617	- 1	3.1741	3.7025	- 3	6.7428	- 1
10	95°	7.2131	- 1	3.3250	2.6657	- 3	3.9190	
20		7.4617	- 1	3.1741	3.7023	- 3	3.8159	
10	265°	5.6075	- 1	3.3388	2.3980	- 3	3.9049	
20		5.7979	- 1	3.1823	3.3133	- 3	3.8053	
10	275°	5.6075	- 1	3.3388	2.3980	- 3	7.6336	- 1
20		5.7979	- 1	3.1823	3.3132	- 3	6.6371	- 1

$N = 3(10^3)$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
10	85°	6.1865	- 1	3.6263	1.4572	- 3	9.2521	- 1
20		6.9197	- 1	3.4235	2.1582	- 3	8.3226	- 1
10	95°	6.1865	- 1	3.6263	1.4573	- 3	4.0668	
20		6.9197	- 1	3.4235	2.1580	- 3	3.9739	
10	265°	4.8355	- 1	3.6652	1.3266	- 3	4.0470	
20		5.3848	- 1	3.4445	1.9487	- 3	3.9581	
10	275°	4.8355	- 1	3.6652	1.3267	- 3	9.0534	- 1
20		5.3848	- 1	3.4445	1.9488	- 3	8.1642	- 1

Table 31

$N = 10^3$ $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 45^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	85°	7.0174	- 1	3.3281	2.8386	- 2	2.9522
20		7.2689	- 1	3.1801	2.6535	- 2	2.7597
10	95°	7.0174	- 1	3.3281	3.0621	- 2	3.0514
20		7.2689	- 1	3.1801	2.9381	- 2	2.9125
10	265°	5.9034	- 1	3.3378	3.7415	- 2	3.2931
20		6.1140	- 1	3.1861	3.9878	- 2	3.2480
20	275°	6.1140	- 1	3.1861	3.5960	- 2	3.1774

$N = 3(10^3)$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	85°	6.0206	- 1	3.6266	2.8729	- 2	3.1743
20		6.7305	- 1	3.4255	2.8910	- 2	3.0389
10	95°	6.0206	- 1	3.6266	3.0038	- 2	3.2264
20		6.7305	- 1	3.4255	3.0773	- 2	3.1168
10	265°	5.0817	- 1	3.6528	3.2990	- 2	3.3636
20		5.6653	- 1	3.4398	3.5889	- 2	3.3143
10	275°	5.0817	- 1	3.6528	3.1554	- 2	3.3257
20		5.6653	- 1	3.4398	3.3719	- 2	3.2647

Table 32

$N = 10^3$ $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 0$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}	
10	85°	8.8370	- 1	3.0179	2.6656	- 3	3.9192	
20		8.3962	- 1	2.9665	3.7022	- 3	3.8160	
10	95°	8.8370	- 1	3.0179	2.6654	- 3	7.7751	- 1
20		8.3962	- 1	2.9665	3.7023	- 3	6.7434	- 1
10	265°	8.8370	- 1	3.0179	2.3978	- 3	7.6356	- 1
20		8.3962	- 1	2.9665	3.3133	- 3	6.6383	- 1
10	275°	8.8370	- 1	3.0179	2.3979	- 3	3.9052	
20		8.3962	- 1	2.9665	3.3135	- 3	3.8055	

$N = 3(10^3)$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}	
10	85°	9.3116	- 1	3.0701	1.4571	- 3	4.0668	
20		9.0416	- 1	3.0404	2.1582	- 3	3.9738	
10	95°	9.3116	- 1	3.0701	1.4571	- 3	9.2522	- 1
20		9.0416	- 1	3.0404	2.1582	- 3	8.3217	- 1
10	265°	9.3116	- 1	3.0701	1.3265	- 3	9.0539	- 1
20		9.0416	- 1	3.0404	1.9488	- 3	8.1636	- 1
10	275°	9.3116	- 1	3.0701	1.3265	- 3	4.0470	
20		9.0416	- 1	3.0404	1.9488	- 3	3.9580	

Table 33

$N = 10^3$ $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 45^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	85°	8.8084	- 1	3.0134	3.0621	- 2	3.0514
20		8.3558	- 1	2.9595	2.9381	- 2	2.9125
10	95°	8.8084	- 1	3.0134	2.8386	- 2	2.9522
20		8.3558	- 1	2.9595	2.6535	- 2	2.7597
10	265°	8.8062	- 1	3.0125	3.4684	- 2	3.2360
20		8.3470	- 1	2.9582	3.5960	- 2	3.1774
20	275°	8.3470	- 1	2.9582	3.9878	- 2	3.2480

$N = 3(10^3)$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	85°	9.2949	- 1	3.0678	3.0038	- 2	3.2264
20		9.0177	- 1	3.0369	3.0773	- 2	3.1168
10	95°	9.2949	- 1	3.0678	2.8729	- 2	3.1743
20		9.0177	- 1	3.0369	2.8910	- 2	3.0389
10	265°	9.2955	- 1	3.0675	3.1554	- 2	3.3257
20		9.0173	- 1	3.0363	3.3719	- 2	3.2647
10	275°	9.2955	- 1	3.0675	3.2990	- 2	3.3636
20		9.0173	- 1	3.0363	3.5889	- 2	3.3143

Table 34

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 0$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
10	85°	8.4403	- 1	4.1167	1.1729	- 2	9.4194	- 1
20		9.2670	- 1	3.6423	1.6242	- 2	6.0696	- 1
40		9.5818	- 1	3.3221	1.9089	- 2	3.3580	- 1
100		9.6005	- 1	2.9878	2.0290	- 2	5.9643	- 2
135		9.4978	- 1	2.8538	1.9797	- 2	6.2621	
10	95°	8.4403	- 1	4.1167	1.1729	- 2	4.0835	
20		9.2670	- 1	3.6423	1.6242	- 2	3.7486	
40		9.5818	- 1	3.3221	1.9089	- 2	3.4774	
100		9.6004	- 1	2.9878	2.0290	- 2	3.2012	
135		9.4978	- 1	2.8538	1.9797	- 2	3.1205	
10	265°	5.2471	- 1	6.0941	3.4481	- 3	3.7658	
20		5.0904	- 1	6.0744	4.2576	- 3	3.5716	
40		5.0561	- 1	5.9638	4.7978	- 3	3.4147	
100		5.1263	- 1	5.5575	4.8717	- 3	3.2514	
135		5.1834	- 1	5.3119	4.4660	- 3	3.1969	
10	275°	5.2471	- 1	6.0941	3.4478	- 3	6.2424	- 1
20		5.0904	- 1	6.0744	4.2575	- 3	4.3015	- 1
40		5.0561	- 1	5.9638	4.7983	- 3	2.7358	- 1
100		5.1263	- 1	5.5575	4.8726	- 3	1.0944	- 1
135		5.1833	- 1	5.3119	4.4660	- 3	5.5082	- 2

Table 35

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 45^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	85°	6.4381	- 1	3.9727	1.5214	- 1	3.0874
20		7.6175	- 1	3.6491	1.5233	- 1	2.8180
40		8.5248	- 1	3.3960	1.4657	- 1	2.4694
100		9.0342	- 1	3.1033	1.6437	- 1	1.8489
135		9.0050	- 1	2.9962	1.9153	- 1	1.5910
10	95°	6.4381	- 1	3.9727	1.5646	- 1	3.1360
20		7.6175	- 1	3.6491	1.5800	- 1	2.8970
40		8.5248	- 1	3.3960	1.5273	- 1	2.5934
100		9.0342	- 1	3.1033	1.6694	- 1	2.0071
135		9.0050	- 1	2.9962	1.9084	- 1	1.7310
10	265°	2.5805	- 1	4.5010	1.9947	- 1	3.5907
20		2.4621	- 1	3.9960	2.4287	- 1	3.5769
40		2.4849	- 1	3.5959	3.0387	- 1	3.5581
100		2.1301	- 1	3.3757	4.4862	- 1	3.3824
135		2.0593	- 1	3.5364	5.0943	- 1	3.2139
10	275°	2.5805	- 1	4.5010	1.9396	- 1	3.5773
20		2.4621	- 1	3.9960	2.3414	- 1	3.5661
40		2.4849	- 1	3.5959	2.9130	- 1	3.5561
100		2.1301	- 1	3.3757	4.3480	- 1	3.3925
135		2.0593	- 1	3.5364	4.9746	- 1	3.2230

Table 36

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 0$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}	
10	85°	9.7110	- 1	3.1102	1.1729	- 2	4.0835	
20		9.6052	- 1	3.0958	1.6242	- 2	3.7486	
40		9.4776	- 1	3.0728	1.9089	- 2	3.4774	
100		9.3092	- 1	3.0125	2.0290	- 2	3.2012	
135		9.2660	- 1	2.9777	1.9796	- 2	3.1205	
10	95°	9.7110	- 1	3.1102	1.1729	- 2	9.4195	- 1
20		9.6052	- 1	3.0958	1.6242	- 2	6.0697	- 1
40		9.4776	- 1	3.0728	1.9089	- 2	3.3580	- 1
100		9.3092	- 1	3.0125	2.0291	- 2	5.9640	- 2
135		9.2660	- 1	2.9777	1.9797	- 2	6.2621	
10	265°	9.7110	- 1	3.1103	3.4480	- 3	6.2423	- 1
20		9.6058	- 1	3.0959	4.2576	- 3	4.3021	- 1
40		9.4788	- 1	3.0729	4.7986	- 3	2.7361	- 1
100		9.3109	- 1	3.0124	4.8725	- 3	1.0956	- 1
135		9.2677	- 1	2.9776	4.4661	- 3	5.5060	- 2
10	275°	9.7110	- 1	3.1103	3.4480	- 3	3.7658	
20		9.6058	- 1	3.0959	4.2576	- 3	3.5718	
40		9.4788	- 1	3.0729	4.7985	- 3	3.4152	
100		9.3109	- 1	3.0124	4.8725	- 3	3.2512	
135		9.2677	- 1	2.9776	4.4661	- 3	3.1966	

Table 37

$N = 1.2(10^3)$ $\nu = 10^6$ $\phi_i = 80.397^\circ$ $H_m = 0.5$ $I = 45^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	85°	9.2360	- 1	3.0579	1.5646	- 1	3.1360
20		8.8944	- 1	3.0295	1.5800	- 1	2.8970
40		8.5117	- 1	2.9950	1.5273	- 1	2.5934
100		8.1082	- 1	2.9058	1.6695	- 1	2.0071
135		7.9982	- 1	2.8416	1.9084	- 1	1.7310
10	95°	9.2360	- 1	3.0579	1.5214	- 1	3.0874
20		8.8944	- 1	3.0295	1.5233	- 1	2.8180
40		8.5117	- 1	2.9950	1.4657	- 1	2.4694
100		8.1082	- 1	2.9058	1.6437	- 1	1.8489
135		7.9982	- 1	2.8416	1.9153	- 1	1.5910
10	265°	9.3186	- 1	3.0412	1.9396	- 1	3.5773
20		8.9970	- 1	2.9842	2.3414	- 1	3.5661
40		8.4633	- 1	2.8882	2.9130	- 1	3.5561
100		6.6516	- 1	2.6748	4.3480	- 1	3.3925
135		5.4525	- 1	2.6455	4.9746	- 1	3.2230
10	275°	9.3186	- 1	3.0412	1.9947	- 1	3.5907
20		8.9970	- 1	2.9842	2.4287	- 1	3.5769
40		8.4633	- 1	2.8882	3.0387	- 1	3.5581
100		6.6516	- 1	2.6748	4.4862	- 1	3.3824
135		5.4525	- 1	2.6455	5.0943	- 1	3.2139

Table 38

$N = 5$ $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	0	3.9146	- 2	1.6577	1.2296	- 3	4.9551
20		1.9652	- 2	1.6125	6.2033	- 4	4.8307
40		9.8356	- 3	1.5879	3.1088	- 4	4.7641
100		3.9351	- 3	1.5670	1.2439	- 4	4.7129
135.6		2.9019	- 3	1.5601	9.1730	- 5	4.6977
10	60°	3.9888	- 2	1.6579	3.8218	- 4	5.1402
20		2.0074	- 2	1.6134	1.7493	- 4	5.0420
40		9.7699	- 3	1.5855	4.1304	- 5	4.8638
100		4.1145	- 3	1.5880	7.3657	- 5	1.8948
135.6		2.4192	- 3	1.4962	1.5840	- 4	1.8175
10	120°	3.9875	- 2	1.6578	2.0238	- 3	1.6868
20		2.0029	- 2	1.6126	1.0220	- 3	1.6261
40		1.0000	- 2	1.5879	5.1834	- 4	1.5921
100		4.0271	- 3	1.5678	2.2116	- 4	1.5679
135.6		2.9721	- 3	1.5588	2.1870	- 4	1.5631
10	180°	3.9146	- 2	1.6576	3.5460	- 3	1.7075
20		1.9652	- 2	1.6124	1.7868	- 3	1.6359
40		9.8357	- 3	1.5877	8.9507	- 4	1.5961
100		3.9352	- 3	1.5665	3.5822	- 4	1.5604
135.6		2.9019	- 3	1.5595	2.6418	- 4	1.5480
10	240°	3.8424	- 2	1.6580	2.6840	- 3	1.6990
20		1.9280	- 2	1.6127	1.3562	- 3	1.6317
40		9.6404	- 3	1.5875	6.8731	- 4	1.5938
100		3.8565	- 3	1.5600	2.9196	- 4	1.5643
135.6		2.8859	- 3	1.5662	2.8312	- 4	1.5594
10	300°	3.8398	- 2	1.6580	3.1910	- 4	1.4542
20		1.9211	- 2	1.6133	1.4178	- 4	1.6285
40		9.5620	- 3	1.5885	3.2677	- 5	1.5166
100		4.1534	- 3	1.6142	6.3848	- 5	4.9886
135.6		2.5662	- 3	1.5072	1.3541	- 4	4.9211

Table 39

$N = 10$ $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	0	7.7098	- 2	1.7431	2.3766	- 3	5.1926
20		3.9150	- 2	1.6564	1.2300	- 3	4.9527
40		1.9654	- 2	1.6100	6.2052	- 4	4.8257
100		7.8698	- 3	1.5759	2.4889	- 4	4.7372
135.6		5.8040	- 3	1.5668	1.8352	- 4	4.7157
10	60°	7.8513	- 2	1.7433	8.1397	- 4	5.5089
20		3.9887	- 2	1.6567	4.0574	- 4	5.1177
40		1.9940	- 2	1.6095	1.9715	- 4	4.9291
100		8.0361	- 3	1.5756	7.4280	- 5	4.9633
135.6		5.9864	- 3	1.5689	3.7436	- 5	4.0455
10	120°	7.8510	- 2	1.7433	3.9476	- 3	1.8003
20		3.9871	- 2	1.6566	2.0235	- 3	1.6848
40		2.0019	- 2	1.6100	1.0182	- 3	1.6211
100		8.0057	- 3	1.5757	4.0237	- 4	1.5722
135.6		5.9227	- 3	1.5667	3.1148	- 4	1.5641
10	180°	7.7099	- 2	1.7430	6.8857	- 3	1.8407
20		3.9150	- 2	1.6564	3.5465	- 3	1.7051
40		1.9654	- 2	1.6099	1.7870	- 3	1.6310
100		7.8699	- 3	1.5757	7.1633	- 4	1.5745
135.6		5.8040	- 3	1.5665	5.2827	- 4	1.5584
10	240°	7.5667	- 2	1.7435	5.2200	- 3	1.8243
20		3.8438	- 2	1.6567	2.6838	- 3	1.6967
40		1.9291	- 2	1.6104	1.3515	- 3	1.6262
100		7.7677	- 3	1.5772	5.3461	- 4	1.5714
135.6		5.6351	- 3	1.5650	4.0249	- 4	1.5509
10	300°	7.5674	- 2	1.7435	7.3926	- 4	1.3695
20		3.8390	- 2	1.6570	3.4191	- 4	1.4408
40		1.9235	- 2	1.6104	1.6062	- 4	1.5108
100		7.7151	- 3	1.5763	5.9291	- 5	1.7221
135.6		5.9862	- 3	1.5698	3.4066	- 5	1.0706

Table 40

N = 20 $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	0	1.4603	- 1	1.8977	4.2293	- 3	5.6228
20		7.7114	- 2	1.7418	2.3780	- 3	5.1902
40		3.9158	- 2	1.6540	1.2307	- 3	4.9479
100		1.5733	- 2	1.5937	4.9722	- 4	4.7866
135.6		1.1606	- 2	1.5799	3.6699	- 4	4.7520
10	60°	1.4867	- 1	1.8980	1.7175	- 3	6.1601
20		7.8542	- 2	1.7422	8.1334	- 4	5.5028
40		3.9901	- 2	1.6542	3.8489	- 4	5.1206
100		1.5910	- 2	1.5925	2.2170	- 4	4.8451
135.6		1.1618	- 2	1.5775	9.6167	- 5	4.7808
10	120°	1.4867	- 1	1.8980	7.2499	- 3	1.9982
20		7.8534	- 2	1.7421	3.9501	- 3	1.7984
40		3.9877	- 2	1.6540	2.0259	- 3	1.6800
100		1.6008	- 2	1.5934	8.1525	- 4	1.5967
135.6		1.1815	- 2	1.5798	6.0655	- 4	1.5766
10	180°	1.4603	- 1	1.8977	1.2442	- 2	2.0730
20		7.7114	- 2	1.7418	6.8878	- 3	1.8383
40		3.9158	- 2	1.6539	3.5477	- 3	1.7003
100		1.5733	- 2	1.5936	1.4313	- 3	1.6025
135.6		1.1606	- 2	1.5798	1.0562	- 3	1.5791
10	240°	1.4326	- 1	1.8983	9.4889	- 3	2.0425
20		7.5688	- 2	1.7423	5.2234	- 3	1.8221
40		3.8445	- 2	1.6543	2.6869	- 3	1.6910
100		1.5423	- 2	1.5938	1.0765	- 3	1.5990
135.6		1.1373	- 2	1.5798	8.0475	- 4	1.5757
10	300°	1.4327	- 1	1.8983	1.7990	- 3	1.3962
20		7.5694	- 2	1.7423	7.3830	- 4	1.3627
40		3.8490	- 2	1.6540	3.2253	- 4	1.4361
100		1.5423	- 2	1.5940	1.8316	- 4	1.5061
135.6		1.1418	- 2	1.5804	7.7367	- 5	1.4709

Table 41

N = 50 $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
10	0	2.8925	- 1	2.2162	6.8461	- 3	2.4416	- 1
20		1.7632	- 1	1.9642	4.9252	- 3	5.8094	
40		9.5388	- 2	1.7805	2.9057	- 3	5.2995	
100		3.9181	- 2	1.6465	1.2327	- 3	4.9335	
135.6		2.8963	- 2	1.6191	9.1387	- 4	4.8608	
10	60°	2.9440	- 1	2.2161	4.4235	- 3	9.6075	- 1
20		1.7949	- 1	1.9645	2.1901	- 3	1.3060	- 1
40		9.7140	- 2	1.7807	1.0367	- 3	5.6807	
100		3.9905	- 2	1.6465	4.0951	- 4	5.0842	
135.6		2.9537	- 2	1.6192	3.1248	- 4	4.9767	
10	120°	2.9440	- 1	2.2161	1.3011	- 2	2.3609	
20		1.7949	- 1	1.9644	8.5973	- 3	2.0787	
40		9.7134	- 2	1.7807	4.8529	- 3	1.8474	
100		3.9904	- 2	1.6465	2.0257	- 3	1.6669	
135.6		2.9503	- 2	1.6190	1.4967	- 3	1.6279	
10	180°	2.8925	- 1	2.2162	2.0949	- 2	2.4943	
20		1.7632	- 1	1.9642	1.4608	- 2	2.1675	
40		9.5388	- 2	1.7804	8.4382	- 3	1.8966	
100		3.9181	- 2	1.6465	3.5508	- 3	1.6858	
135.6		2.8963	- 2	1.6190	2.6306	- 3	1.6409	
10	240°	2.8363	- 1	2.2165	1.6379	- 2	2.4375	
20		1.7295	- 1	1.9648	1.1183	- 2	2.1307	
40		9.3614	- 2	1.7811	6.4049	- 3	1.8760	
100		3.8452	- 2	1.6470	2.6871	- 3	1.6760	
135.6		2.8453	- 2	1.6196	1.9866	- 3	1.6324	
10	300°	2.8363	- 1	2.2165	5.2507	- 3	1.7475	
20		1.7296	- 1	1.9648	2.4010	- 3	1.4452	
40		9.3599	- 2	1.7811	9.8068	- 4	1.3507	
100		3.8441	- 2	1.6470	3.4382	- 4	1.4048	
135.6		2.8378	- 2	1.6199	2.5883	- 4	1.4325	

Table 42

N = 100 $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
10	0	4.0799	- 1	2.4805	8.3602	- 3	1.0408	
20		2.8939	- 1	2.2154	6.8556	- 3	2.4251	- 1
40		1.7646	- 1	1.9621	4.9361	- 3	5.8054	
100		7.7236	- 2	1.7322	2.3885	- 3	5.1715	
135.6		5.7491	- 2	1.6833	1.7982	- 3	5.0393	
10	60°	4.1534	- 1	2.4801	7.6156	- 3	1.6545	
20		2.9454	- 1	2.2153	4.4241	- 3	9.5845	- 1
40		1.7963	- 1	1.9623	2.1926	- 3	1.2694	- 1
100		7.8662	- 2	1.7324	8.2050	- 4	5.4791	
135.6		5.8535	- 2	1.6832	5.8281	- 4	5.2698	
10	120°	4.1534	- 1	2.4801	1.6784	- 2	2.6123	
20		2.9454	- 1	2.2153	1.3017	- 2	2.3592	
40		1.7963	- 1	1.9623	8.6047	- 3	2.0748	
100		7.8657	- 2	1.7323	3.9567	- 3	1.7808	
135.6		5.8549	- 2	1.6833	2.9625	- 3	1.7143	
10	180°	4.0799	- 1	2.4805	2.4915	- 2	2.7732	
20		2.8939	- 1	2.2154	2.0961	- 2	2.4926	
40		1.7646	- 1	1.9621	1.4624	- 2	2.1634	
100		7.7237	- 2	1.7322	6.9041	- 3	1.8195	
135.6		5.7491	- 2	1.6833	5.1829	- 3	1.7418	
10	240°	4.0285	- 1	2.4821	3.5964	- 2	2.9389	
20		2.8599	- 1	2.2172	3.2887	- 2	2.6301	
40		1.7458	- 1	1.9638	2.4257	- 2	2.2550	
100		7.6480	- 2	1.7332	1.1773	- 2	1.8600	
135.6		5.6931	- 2	1.6841	8.8648	- 3	1.7708	
10	300°	4.0009	- 1	2.4805	9.0014	- 3	2.1120	
20		2.8377	- 1	2.2157	5.2514	- 3	1.7448	
40		1.7309	- 1	1.9629	2.4033	- 3	1.4411	
100		7.5779	- 2	1.7330	7.4413	- 4	1.3379	
135.6		5.6429	- 2	1.6840	4.9967	- 4	1.3582	

Table 43

N = 300 $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
10	0	5.5010	- 1	2.8361	1.1749	- 2	2.0622	
20		4.6943	- 1	2.6220	9.4259	- 3	1.4704	
40		3.6050	- 1	2.3711	7.7635	- 3	7.0709	- 1
100		2.0441	- 1	2.0175	5.5359	- 3	5.9657	
135.6		1.5996	- 1	1.9138	4.5991	- 3	5.6791	
10	60°	5.6023	- 1	2.8356	1.3026	- 2	2.3728	
20		4.7796	- 1	2.6215	9.6702	- 3	1.9665	
40		3.6695	- 1	2.3708	6.2276	- 3	1.3842	
100		2.0806	- 1	2.0175	2.6822	- 3	3.2811	- 1
135.6		1.6284	- 1	1.9139	1.9303	- 3	6.2369	
10	120°	5.6023	- 1	2.8356	2.0646	- 2	2.8908	
20		4.7796	- 1	2.6215	1.8503	- 2	2.7296	
40		3.6695	- 1	2.3708	1.5360	- 2	2.5105	
100		2.0807	- 1	2.0176	9.7893	- 3	2.1359	
135.6		1.6284	- 1	1.9139	7.8841	- 3	2.0098	
10	180°	5.5010	- 1	2.8361	2.6769	- 2	3.0456	
20		4.6943	- 1	2.6220	2.6082	- 2	2.8944	
40		3.6050	- 1	2.3711	2.3641	- 2	2.6632	
100		2.0441	- 1	2.0175	1.6472	- 2	2.2360	
135.6		1.5996	- 1	1.9138	1.3493	- 2	2.0891	
10	240°	5.3959	- 1	2.8361	2.3066	- 2	2.9710	
20		4.6038	- 1	2.6220	2.1603	- 2	2.8185	
40		3.5349	- 1	2.3713	1.8838	- 2	2.5959	
100		2.0049	- 1	2.0183	1.2661	- 2	2.1926	
135.6		1.5692	- 1	1.9148	1.0305	- 2	2.0538	
10	300°	5.3959	- 1	2.8361	1.4526	- 2	2.5773	
20		4.6038	- 1	2.6220	1.1208	- 2	2.3028	
40		3.5349	- 1	2.3713	7.4259	- 3	1.9559	
100		2.0049	- 1	2.0183	3.0336	- 3	1.4831	
135.6		1.5693	- 1	1.9147	2.0671	- 3	1.3759	

Table 44

$N = 5$ $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}	
10	0	4.0540	- 2	1.6503	3.5469	- 3	1.7072	
20		2.0344	- 2	1.6089	1.7905	- 3	1.6367	
40		1.0181	- 2	1.5863	9.1514	- 4	1.5982	
100		4.0733	- 3	1.5669	2.9625	- 4	1.5600	
135.6		3.0038	- 3	1.5605	2.4206	- 4	1.5382	
10	60°	4.0649	- 2	1.6507	2.0415	- 3	1.6866	
20		2.0401	- 2	1.6090	9.6388	- 4	1.6233	
40		1.0214	- 2	1.5864	5.1233	- 4	1.5925	
100		4.0953	- 3	1.5675	1.9296	- 4	1.2430	
135.6		3.0303	- 3	1.5617	1.3110	- 4	2.1704	
10	120°	4.0647	- 2	1.6507	3.9817	- 4	5.1319	
20		2.0398	- 2	1.6091	1.9901	- 4	4.9538	
40		1.0208	- 2	1.5863	9.7032	- 5	4.8402	
100		4.0827	- 3	1.5668	5.1216	- 5	5.3756	
135.6		3.0052	- 3	1.5604	4.2788	- 5	3.9718	
10	180°	4.0540	- 2	1.6502	1.2304	- 3	4.9549	
20		2.0344	- 2	1.6088	6.1849	- 4	4.8308	
40		1.0181	- 2	1.5861	3.0950	- 4	4.7629	
100		4.0733	- 3	1.5665	9.4791	- 5	4.7173	
135.6		3.0039	- 3	1.5600	3.1569	- 5	4.5841	
10	240°	4.0647	- 2	1.6507	3.3376	- 4	1.4323	
20		2.0399	- 2	1.6091	1.6057	- 4	1.4957	
40		1.0210	- 2	1.5863	7.8676	- 5	1.7104	
100		4.0865	- 3	1.5669	8.3436	- 5	2.7945	
135.6		3.0204	- 3	1.5605	5.2497	- 5	5.7501	- 1
10	300°	4.0648	- 2	1.6507	2.6951	- 3	1.6991	
20		2.0400	- 2	1.6090	1.3771	- 3	1.6333	
40		1.0214	- 2	1.5863	6.6355	- 4	1.5926	
100		4.0938	- 3	1.5672	3.8147	- 4	2.0434	
135.6		3.0276	- 3	1.5613	2.4587	- 4	1.0770	

Table 45

N = 10 $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	0	7.9955	- 2	1.7285	6.8855	- 3	1.8409
20		4.0544	- 2	1.6491	3.5470	- 3	1.7058
40		2.0346	- 2	1.6065	1.7911	- 3	1.6315
100		8.1462	- 3	1.5751	7.2816	- 4	1.5780
135.6		6.0077	- 3	1.5666	5.1470	- 4	1.5583
10	60°	8.0149	- 2	1.7293	3.9487	- 3	1.8005
20		4.0650	- 2	1.6495	2.0342	- 3	1.6839
40		2.0401	- 2	1.6067	1.0429	- 3	1.6217
100		8.1691	- 3	1.5749	4.2477	- 4	1.5722
135.6		6.0269	- 3	1.5670	2.5240	- 4	1.5189
10	120°	8.0149	- 2	1.7293	8.1287	- 4	5.5127
20		4.0651	- 2	1.6495	3.9938	- 4	5.1351
40		2.0400	- 2	1.6067	1.9703	- 4	4.8526
100		8.1688	- 3	1.5751	7.8310	- 5	4.7576
135.6		6.0230	- 3	1.5665	5.9574	- 5	4.8259
10	180°	7.9955	- 2	1.7285	2.3771	- 3	5.1924
20		4.0544	- 2	1.6491	1.2290	- 3	4.9522
40		2.0346	- 2	1.6065	6.2383	- 4	4.8247
100		8.1462	- 3	1.5749	2.5347	- 4	4.7362
135.6		6.0078	- 3	1.5663	1.8947	- 4	4.7152
10	240°	8.0150	- 2	1.7293	7.3809	- 4	1.3711
20		4.0651	- 2	1.6495	3.3477	- 4	1.4356
40		2.0401	- 2	1.6067	1.6399	- 4	1.4223
100		8.1676	- 3	1.5751	7.2389	- 5	1.2546
135.6		6.0244	- 3	1.5666	4.3875	- 5	2.0159
10	300°	8.0150	- 2	1.7293	5.2177	- 3	1.8248
20		4.0650	- 2	1.6495	2.7027	- 3	1.6960
40		2.0400	- 2	1.6067	1.3674	- 3	1.6298
100		8.1685	- 3	1.5750	5.5115	- 4	1.5717
135.6		6.0258	- 3	1.5668	3.9179	- 4	1.5570

Table 46

N = 20 $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	0	1.5215	- 1	1.8705	1.2442	- 2	2.0729
20		7.9969	- 2	1.7274	6.8873	- 3	1.8381
40		4.0551	- 2	1.6468	3.5399	- 3	1.7005
100		1.6286	- 2	1.5914	1.4254	- 3	1.6049
135.6		1.2014	- 2	1.5786	1.0384	- 3	1.5830
10	60°	1.5243	- 1	1.8717	7.2455	- 3	1.9982
20		8.0164	- 2	1.7282	3.9476	- 3	1.7979
40		4.0659	- 2	1.6472	2.0049	- 3	1.6805
100		1.6324	- 2	1.5914	8.5866	- 4	1.5997
135.6		1.2048	- 2	1.5787	5.9975	- 4	1.5677
10	120°	1.5243	- 1	1.8717	1.7145	- 3	6.1610
20		8.0164	- 2	1.7282	8.1538	- 4	5.5128
40		4.0658	- 2	1.6472	3.9835	- 4	5.1208
100		1.6330	- 2	1.5915	1.5601	- 4	4.8107
135.6		1.2046	- 2	1.5787	1.1698	- 4	4.9342
10	180°	1.5215	- 1	1.8705	4.2290	- 3	5.6227
20		7.9970	- 2	1.7273	2.3771	- 3	5.1898
40		4.0551	- 2	1.6467	1.2285	- 3	4.9477
100		1.6286	- 2	1.5913	5.0018	- 4	4.7870
135.6		1.2014	- 2	1.5785	3.6305	- 4	4.7508
10	240°	1.5243	- 1	1.8717	1.7967	- 3	1.3975
20		8.0164	- 2	1.7282	7.3734	- 4	1.3715
40		4.0659	- 2	1.6472	3.3351	- 4	1.4392
100		1.6329	- 2	1.5915	1.2589	- 4	1.5264
135.6		1.2047	- 2	1.5787	9.1249	- 5	1.6369
10	300°	1.5243	- 1	1.8717	9.4869	- 3	2.0428
20		8.0164	- 2	1.7282	5.2299	- 3	1.8214
40		4.0659	- 2	1.6472	2.6805	- 3	1.6913
100		1.6325	- 2	1.5915	1.0410	- 3	1.5957
135.6		1.2048	- 2	1.5787	8.8440	- 4	1.5857

Table 47

N = 50 $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}	
10	0	3.0657	- 1	2.1634	2.0948	- 2	2.4943	
20		1.8421	- 1	1.9317	1.4607	- 2	2.1674	
40		9.9009	- 2	1.7627	8.4369	- 3	1.8968	
100		4.0572	- 2	1.6397	3.5487	- 3	1.6865	
135.6		2.9985	- 2	1.6145	2.6260	- 3	1.6412	
10	60°	3.0681	- 1	2.1645	1.3013	- 2	2.3609	
20		1.8451	- 1	1.9330	8.5962	- 3	2.0789	
40		9.9236	- 2	1.7636	4.8519	- 3	1.8471	
100		4.0678	- 2	1.6401	2.0190	- 3	1.6662	
135.6		3.0063	- 2	1.6147	1.5152	- 3	1.6289	
10	120°	3.0681	- 1	2.1645	4.4229	- 3	9.6098	- 1
20		1.8451	- 1	1.9330	2.1900	- 3	1.3232	- 1
40		9.9237	- 2	1.7636	1.0316	- 3	5.6808	
100		4.0679	- 2	1.6401	3.9824	- 4	5.0973	
135.6		3.0066	- 2	1.6147	2.9501	- 4	5.0066	
10	180°	3.0657	- 1	2.1634	6.8459	- 3	2.4412	- 1
20		1.8421	- 1	1.9317	4.9252	- 3	5.8093	
40		9.9009	- 2	1.7627	2.9055	- 3	5.2996	
100		4.0572	- 2	1.6397	1.2346	- 3	4.9329	
135.6		2.9985	- 2	1.6144	9.1379	- 4	4.8608	
10	240°	3.0681	- 1	2.1645	5.2485	- 3	1.7476	
20		1.8451	- 1	1.9330	2.4001	- 3	1.4467	
40		9.9237	- 2	1.7636	9.7603	- 4	1.3515	
100		4.0679	- 2	1.6401	3.3462	- 4	1.3966	
135.6		3.0065	- 2	1.6147	2.4389	- 4	1.4176	
10	300°	3.0681	- 1	2.1645	1.6379	- 2	2.4375	
20		1.8451	- 1	1.9330	1.1182	- 2	2.1307	
40		9.9237	- 2	1.7636	6.4022	- 3	1.8760	
100		4.0678	- 2	1.6401	2.6821	- 3	1.6758	
135.6		3.0063	- 2	1.6147	2.0041	- 3	1.6334	

Table 48

N = 100 $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}	
10	0	4.4254	- 1	2.4019	2.4916	- 2	2.7732	
20		3.0670	- 1	2.1626	2.0960	- 2	2.4926	
40		1.8434	- 1	1.9297	1.4624	- 2	2.1635	
100		8.0079	- 2	1.7182	6.9011	- 3	1.8196	
135.6		5.9557	- 2	1.6733	5.1748	- 3	1.7421	
10	60°	4.4270	- 1	2.4026	1.6783	- 2	2.6124	
20		3.0694	- 1	2.1637	1.3016	- 2	2.3593	
40		1.8463	- 1	1.9310	8.6036	- 3	2.0744	
100		8.0275	- 2	1.7190	3.9541	- 3	1.7809	
135.6		5.9712	- 2	1.6739	2.9568	- 3	1.7135	
10	120°	4.4270	- 1	2.4026	7.6153	- 3	1.6546	
20		3.0694	- 1	2.1637	4.4262	- 3	9.5845	- 1
40		1.8463	- 1	1.9310	2.1939	- 3	1.2599	- 1
100		8.0275	- 2	1.7190	8.1650	- 4	5.4840	
135.6		5.9710	- 2	1.6739	5.9402	- 4	5.2710	
10	180°	4.4254	- 1	2.4019	8.3605	- 3	1.0408	
20		3.0670	- 1	2.1626	6.8558	- 3	2.4249	- 1
40		1.8434	- 1	1.9297	4.9361	- 3	5.8053	
100		8.0079	- 2	1.7182	2.3885	- 3	5.1713	
135.6		5.9557	- 2	1.6733	1.7977	- 3	5.0394	
10	240°	4.4486	- 1	2.4037	9.3710	- 3	2.1116	
20		3.0856	- 1	2.1640	5.4693	- 3	1.7474	
40		1.8556	- 1	1.9306	2.5085	- 3	1.4453	
100		8.0624	- 2	1.7185	7.7620	- 4	1.3460	
135.6		5.9964	- 2	1.6735	5.4067	- 4	1.3623	
10	300°	4.4267	- 1	2.4027	2.0161	- 2	2.7014	
20		3.0694	- 1	2.1638	1.6388	- 2	2.4357	
40		1.8464	- 1	1.9310	1.1194	- 2	2.1262	
100		8.0275	- 2	1.7190	5.2389	- 3	1.8013	
135.6		5.9712	- 2	1.6738	3.9126	- 3	1.7279	

Table 49

$N = 300$ $\nu = 5(10^7)$ $\phi_i = 80^\circ$ $H_m = 0.5$ $I = 70^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}	
10	0	6.3264	- 1	2.6970	2.6769	- 2	3.0456	
20		5.1838	- 1	2.5246	2.6082	- 2	2.8944	
40		3.8679	- 1	2.3040	2.3641	- 2	2.6632	
100		2.1409	- 1	1.9805	1.6472	- 2	2.2360	
135.6		1.6675	- 1	1.8849	1.3492	- 2	2.0893	
10	60°	6.3275	- 1	2.6973	2.0646	- 2	2.8908	
20		5.1852	- 1	2.5251	1.8504	- 2	2.7296	
40		3.8697	- 1	2.3049	1.5361	- 2	2.5105	
100		2.1439	- 1	1.9817	9.7896	- 3	2.1358	
135.6		1.6705	- 1	1.8861	7.8835	- 3	2.0094	
10	120°	6.3275	- 1	2.6973	1.3026	- 2	2.3728	
20		5.1852	- 1	2.5251	9.6703	- 3	1.9665	
40		3.8697	- 1	2.3049	6.2274	- 3	1.3842	
100		2.1439	- 1	1.9817	2.6811	- 3	3.2775	- 1
135.6		1.6705	- 1	1.8861	1.9346	- 3	6.2370	
10	180°	6.3264	- 1	2.6970	1.1749	- 2	2.0622	
20		5.1838	- 1	2.5246	9.4257	- 3	1.4704	
40		3.8679	- 1	2.3040	7.7636	- 3	7.0707	- 1
100		2.1409	- 1	1.9804	5.5358	- 3	5.9656	
135.6		1.6675	- 1	1.8848	4.5988	- 3	5.6792	
10	240°	6.3267	- 1	2.6973	1.4527	- 2	2.5773	
20		5.1847	- 1	2.5251	1.1208	- 2	2.3028	
40		3.8696	- 1	2.3049	7.4252	- 3	1.9559	
100		2.1439	- 1	1.9817	3.0340	- 3	1.4835	
135.6		1.6705	- 1	1.8861	2.0708	- 3	1.3757	
10	300°	6.3267	- 1	2.6973	2.3066	- 2	2.9710	
20		5.1847	- 1	2.5251	2.1603	- 2	2.8184	
40		3.8696	- 1	2.3049	1.8838	- 2	2.5959	
100		2.1439	- 1	1.9817	1.2660	- 2	2.1926	
135.6		1.6705	- 1	1.8861	1.0306	- 2	2.0540	

Table 50

N = 300 $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ I = 0

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}	
10	0	6.6488	- 1	3.0827	5.0858	- 2	6.0790	- 1
12		6.5998	- 1	3.0447	5.4791	- 2	5.7702	- 1
14		6.5409	- 1	3.0120	5.8235	- 2	5.4939	- 1
16		6.4770	- 1	2.9831	6.1297	- 2	5.2411	- 1
18		6.4107	- 1	2.9569	6.4050	- 2	5.0063	- 1
20		6.3435	- 1	2.9330	6.6546	- 2	4.7858	- 1
22		6.2762	- 1	2.9109	6.8824	- 2	4.5770	- 1
10	60°	7.3179	- 1	3.0712	2.6303	- 2	5.9984	- 1
12		7.2554	- 1	3.0327	2.8300	- 2	5.6903	- 1
14		7.1828	- 1	2.9995	3.0050	- 2	5.4154	- 1
16		7.1052	- 1	2.9700	3.1605	- 2	5.1640	- 1
18		7.0255	- 1	2.9435	3.3004	- 2	4.9304	- 1
20		6.9452	- 1	2.9192	3.4272	- 2	4.7109	- 1
22		6.8654	- 1	2.8967	3.5430	- 2	4.5028	- 1
10	120°	7.3179	- 1	3.0712	2.6303	- 2	3.7414	
12		7.2554	- 1	3.0327	2.8300	- 2	3.7106	
14		7.1828	- 1	2.9995	3.0050	- 2	3.6831	
16		7.1052	- 1	2.9700	3.1605	- 2	3.6580	
18		7.0255	- 1	2.9435	3.3004	- 2	3.6346	
20		6.9452	- 1	2.9192	3.4272	- 2	3.6127	
22		6.8654	- 1	2.8967	3.5430	- 2	3.5919	
10	180°	6.6488	- 1	3.0827	5.0858	- 2	3.7495	
12		6.5998	- 1	3.0447	5.4791	- 2	3.7186	
14		6.5409	- 1	3.0120	5.8235	- 2	3.6910	
16		6.4770	- 1	2.9831	6.1297	- 2	3.6657	
18		6.4107	- 1	2.9569	6.4050	- 2	3.6422	
20		6.3435	- 1	2.9330	6.6546	- 2	3.6202	
22		6.2762	- 1	2.9109	6.8824	- 2	3.5993	
10	240°	5.8771	- 1	3.0753	2.3818	- 2	3.7337	
12		5.8268	- 1	3.0363	2.5606	- 2	3.7035	
14		5.7685	- 1	3.0028	2.7170	- 2	3.6765	
16		5.7061	- 1	2.9732	2.8561	- 2	3.6518	
18		5.6421	- 1	2.9466	2.9812	- 2	3.6288	
20		5.5777	- 1	2.9223	3.0946	- 2	3.6072	
22		5.5135	- 1	2.8998	3.1980	- 2	3.5867	
10	300°	5.8771	- 1	3.0753	2.3818	- 2	5.9208	- 1
12		5.8268	- 1	3.0363	2.5606	- 2	5.6188	- 1
14		5.7685	- 1	3.0028	2.7170	- 2	5.3490	- 1
16		5.7061	- 1	2.9732	2.8562	- 2	5.1020	- 1
18		5.6421	- 1	2.9466	2.9812	- 2	4.8723	- 1
20		5.5777	- 1	2.9223	3.0946	- 2	4.6563	- 1
22		5.5135	- 1	2.8998	3.1980	- 2	4.4513	- 1

Table 51

N = 300 $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 45^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	0	6.6882	- 1	3.0845	2.5210	- 2	1.6407
12		6.6394	- 1	3.0472	2.6601	- 2	1.5041
14		6.5809	- 1	3.0152	2.8032	- 2	1.3917
16		6.5174	- 1	2.9868	2.9452	- 2	1.2972
18		6.4515	- 1	2.9613	3.0834	- 2	1.2162
20		6.3847	- 1	2.9379	3.2165	- 2	1.1457
22		6.3179	- 1	2.9163	3.3438	- 2	1.0835
10	60°	7.1623	- 1	3.0781	2.2823	- 2	1.9876
12		7.1056	- 1	3.0405	2.3091	- 2	1.8480
14		7.0389	- 1	3.0081	2.3517	- 2	1.7258
16		6.9671	- 1	2.9795	2.4045	- 2	1.6182
18		6.8930	- 1	2.9537	2.4635	- 2	1.5228
20		6.8181	- 1	2.9302	2.5261	- 2	1.4377
22		6.7435	- 1	2.9084	2.5905	- 2	1.3613
10	120°	7.1623	- 1	3.0781	3.9311	- 2	3.1359
12		7.1056	- 1	3.0405	3.9374	- 2	3.1161
14		7.0389	- 1	3.0081	3.9372	- 2	3.0984
16		6.9671	- 1	2.9795	3.9329	- 2	3.0824
18		6.8930	- 1	2.9537	3.9260	- 2	3.0677
20		6.8181	- 1	2.9302	3.9173	- 2	3.0539
22		6.7435	- 1	2.9084	3.9074	- 2	3.0409
10	180°	6.6882	- 1	3.0845	6.2063	- 2	3.3891
12		6.6394	- 1	3.0472	6.4214	- 2	3.3764
14		6.5809	- 1	3.0152	6.6068	- 2	3.3641
16		6.5174	- 1	2.9868	6.7696	- 2	3.3520
18		6.4515	- 1	2.9613	6.9145	- 2	3.3400
20		6.3847	- 1	2.9379	7.0446	- 2	3.3282
22		6.3179	- 1	2.9163	7.1623	- 2	3.3166
10	240°	6.1629	- 1	3.0816	5.2905	- 2	3.3340
12		6.1145	- 1	3.0438	5.4360	- 2	3.3208
14		6.0575	- 1	3.0114	5.5597	- 2	3.3082
16		5.9961	- 1	2.9828	5.6669	- 2	3.2960
18		5.9327	- 1	2.9570	5.7613	- 2	3.2841
20		5.8686	- 1	2.9335	5.8454	- 2	3.2725
22		5.8047	- 1	2.9117	5.9208	- 2	3.2611
10	300°	6.1629	- 1	3.0816	2.5403	- 2	2.7807
12		6.1145	- 1	3.0438	2.4659	- 2	2.7285
14		6.0575	- 1	3.0114	2.3968	- 2	2.6804
16		5.9961	- 1	2.9828	2.3327	- 2	2.6355
18		5.9327	- 1	2.9570	2.2729	- 2	2.5933
20		5.8686	- 1	2.9335	2.2169	- 2	2.5532
22		5.8047	- 1	2.9117	2.1645	- 2	2.5149

Table 52

N = 300 $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 84.27^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	0	6.7248	- 1	3.0863	3.9685	- 2	2.8933
12		6.6764	- 1	3.0497	3.8765	- 2	2.8549
14		6.6183	- 1	3.0182	3.7895	- 2	2.8203
16		6.5553	- 1	2.9904	3.7073	- 2	2.7886
18		6.4898	- 1	2.9654	3.6296	- 2	2.7593
20		6.4235	- 1	2.9425	3.5560	- 2	2.7318
22		6.3571	- 1	2.9214	3.4862	- 2	2.7058
10	60°	6.7936	- 1	3.0859	4.0309	- 2	2.9045
12		6.7445	- 1	3.0493	3.9409	- 2	2.8671
14		6.6857	- 1	3.0178	3.8554	- 2	2.8335
16		6.6219	- 1	2.9900	3.7745	- 2	2.8028
18		6.5556	- 1	2.9650	3.6977	- 2	2.7744
20		6.4885	- 1	2.9421	3.6250	- 2	2.7478
22		6.4213	- 1	2.9210	3.5558	- 2	2.7228
10	120°	6.7936	- 1	3.0859	4.3790	- 2	2.9891
12		6.7445	- 1	3.0493	4.3150	- 2	2.9600
14		6.6857	- 1	3.0178	4.2522	- 2	2.9342
16		6.6219	- 1	2.9900	4.1912	- 2	2.9108
18		6.5556	- 1	2.9650	4.1325	- 2	2.8892
20		6.4885	- 1	2.9421	4.0760	- 2	2.8692
22		6.4213	- 1	2.9210	4.0216	- 2	2.8504
10	180°	6.7248	- 1	3.0863	4.6818	- 2	3.0528
12		6.6764	- 1	3.0497	4.6450	- 2	3.0292
14		6.6183	- 1	3.0182	4.6063	- 2	3.0082
16		6.5553	- 1	2.9904	4.5672	- 2	2.9892
18		6.4898	- 1	2.9654	4.5283	- 2	2.9716
20		6.4235	- 1	2.9425	4.4900	- 2	2.9553
22		6.3571	- 1	2.9214	4.4525	- 2	2.9399
10	240°	6.6551	- 1	3.0865	4.6122	- 2	3.0449
12		6.6072	- 1	3.0499	4.5724	- 2	3.0208
14		6.5497	- 1	3.0184	4.5311	- 2	2.9993
16		6.4873	- 1	2.9906	4.4896	- 2	2.9798
18		6.4225	- 1	2.9655	4.4487	- 2	2.9619
20		6.3568	- 1	2.9427	4.4085	- 2	2.9452
22		6.2911	- 1	2.9216	4.3694	- 2	2.9294
10	300°	6.6551	- 1	3.0865	4.2464	- 2	2.9704
12		6.6072	- 1	3.0499	4.1772	- 2	2.9399
14		6.5497	- 1	3.0184	4.1100	- 2	2.9127
16		6.4873	- 1	2.9906	4.0454	- 2	2.8879
18		6.4225	- 1	2.9655	3.9834	- 2	2.8651
20		6.3568	- 1	2.9427	3.9240	- 2	2.8438
22		6.2911	- 1	2.9216	3.8671	- 2	2.8238

Table 53

N = 300 $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 90^\circ$

f, kc	ϕ_a	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{em} \rvert$		arg T_{em}
10	0	6.7255	- 1	3.0863	4.3311	- 2	2.9796
12		6.6772	- 1	3.0497	4.2640	- 2	2.9498
14		6.6191	- 1	3.0183	4.1985	- 2	2.9233
16		6.5560	- 1	2.9905	4.1353	- 2	2.8993
18		6.4906	- 1	2.9654	4.0746	- 2	2.8771
20		6.4242	- 1	2.9426	4.0163	- 2	2.8565
22		6.3579	- 1	2.9215	3.9604	- 2	2.8371
10	240°	6.7255	- 1	3.0863	4.3311	- 2	2.9796

Table 54

N = 300 $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ I = 0

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}	
10	0	7.9671	- 1	2.9082	5.0858	- 2	3.7495	
12		7.7902	- 1	2.8855	5.4791	- 2	3.7186	
14		7.6304	- 1	2.8648	5.8235	- 2	3.6910	
16		7.4844	- 1	2.8455	6.1297	- 2	3.6657	
18		7.3496	- 1	2.8275	6.4050	- 2	3.6422	
20		7.2241	- 1	2.8104	6.6546	- 2	3.6202	
22		7.1067	- 1	2.7942	6.8824	- 2	3.5993	
10	60°	7.9720	- 1	2.9144	2.6303	- 2	3.7414	
12		7.7991	- 1	2.8927	2.8300	- 2	3.7106	
14		7.6432	- 1	2.8728	3.0050	- 2	3.6831	
16		7.5006	- 1	2.8544	3.1605	- 2	3.6580	
18		7.3690	- 1	2.8371	3.3004	- 2	3.6346	
20		7.2464	- 1	2.8207	3.4272	- 2	3.6127	
22		7.1316	- 1	2.8052	3.5430	- 2	3.5919	
10	120°	7.9720	- 1	2.9144	2.6303	- 2	5.9983	- 1
12		7.7991	- 1	2.8927	2.8300	- 2	5.6903	- 1
14		7.6432	- 1	2.8728	3.0050	- 2	5.4154	- 1
16		7.5006	- 1	2.8544	3.1605	- 2	5.1640	- 1
18		7.3690	- 1	2.8371	3.3004	- 2	4.9304	- 1
20		7.2464	- 1	2.8207	3.4273	- 2	4.7109	- 1
22		7.1316	- 1	2.8052	3.5430	- 2	4.5028	- 1
10	180°	7.9671	- 1	2.9082	5.0858	- 2	6.0790	- 1
12		7.7902	- 1	2.8855	5.4791	- 2	5.7702	- 1
14		7.6304	- 1	2.8648	5.8235	- 2	5.4939	- 1
16		7.4844	- 1	2.8455	6.1297	- 2	5.2411	- 1
18		7.3496	- 1	2.8275	6.4050	- 2	5.0063	- 1
20		7.2241	- 1	2.8104	6.6546	- 2	4.7858	- 1
22		7.1067	- 1	2.7942	6.8824	- 2	4.5771	- 1
10	240°	7.9721	- 1	2.9144	2.3819	- 2	5.9208	- 1
12		7.7993	- 1	2.8927	2.5606	- 2	5.6188	- 1
14		7.6434	- 1	2.8728	2.7170	- 2	5.3490	- 1
16		7.5009	- 1	2.8544	2.8562	- 2	5.1020	- 1
18		7.3692	- 1	2.8371	2.9812	- 2	4.8723	- 1
20		7.2466	- 1	2.8207	3.0946	- 2	4.6562	- 1
22		7.1318	- 1	2.8052	3.1980	- 2	4.4513	- 1
10	300°	7.9721	- 1	2.9144	2.3819	- 2	3.7337	
12		7.7993	- 1	2.8927	2.5606	- 2	3.7035	
14		7.6434	- 1	2.8728	2.7170	- 2	3.6765	
16		7.5009	- 1	2.8544	2.8562	- 2	3.6518	
18		7.3692	- 1	2.8371	2.9812	- 2	3.6288	
20		7.2466	- 1	2.8207	3.0946	- 2	3.6072	
22		7.1318	- 1	2.8052	3.1980	- 2	3.5867	

Table 55

N = 300 $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 45^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	0	7.9089	- 1	2.9016	6.2063	- 2	3.3891
12		7.7269	- 1	2.8785	6.4214	- 2	3.3764
14		7.5627	- 1	2.8573	6.6068	- 2	3.3641
16		7.4127	- 1	2.8377	6.7696	- 2	3.3520
18		7.2742	- 1	2.8193	6.9145	- 2	3.3400
20		7.1455	- 1	2.8020	7.0446	- 2	3.3282
22		7.0249	- 1	2.7856	7.1623	- 2	3.3166
10	60°	7.9172	- 1	2.9052	3.9311	- 2	3.1359
12		7.7379	- 1	2.8825	3.9374	- 2	3.1161
14		7.5760	- 1	2.8617	3.9372	- 2	3.0984
16		7.4278	- 1	2.8425	3.9329	- 2	3.0824
18		7.2910	- 1	2.8244	3.9260	- 2	3.0677
20		7.1636	- 1	2.8074	3.9173	- 2	3.0539
22		7.0443	- 1	2.7913	3.9073	- 2	3.0409
10	120°	7.9172	- 1	2.9052	2.2823	- 2	1.9876
12		7.7379	- 1	2.8825	2.3091	- 2	1.8480
14		7.5760	- 1	2.8617	2.3517	- 2	1.7258
16		7.4278	- 1	2.8425	2.4045	- 2	1.6182
18		7.2910	- 1	2.8244	2.4635	- 2	1.5228
20		7.1636	- 1	2.8074	2.5261	- 2	1.4377
22		7.0443	- 1	2.7913	2.5905	- 2	1.3613
10	180°	7.9089	- 1	2.9016	2.5210	- 2	1.6407
12		7.7269	- 1	2.8785	2.6601	- 2	1.5041
14		7.5627	- 1	2.8573	2.8032	- 2	1.3917
16		7.4127	- 1	2.8377	2.9452	- 2	1.2972
18		7.2742	- 1	2.8193	3.0834	- 2	1.2162
20		7.1455	- 1	2.8020	3.2165	- 2	1.1457
22		7.0249	- 1	2.7856	3.3438	- 2	1.0835
10	240°	7.9049	- 1	2.9043	2.5403	- 2	2.7807
12		7.7244	- 1	2.8818	2.4659	- 2	2.7285
14		7.5619	- 1	2.8612	2.3969	- 2	2.6803
16		7.4135	- 1	2.8421	2.3327	- 2	2.6355
18		7.2766	- 1	2.8242	2.2729	- 2	2.5933
20		7.1494	- 1	2.8073	2.2169	- 2	2.5532
22		7.0303	- 1	2.7913	2.1645	- 2	2.5149
10	300°	7.9049	- 1	2.9043	5.2905	- 2	3.3340
12		7.7244	- 1	2.8818	5.4360	- 2	3.3208
14		7.5619	- 1	2.8612	5.5597	- 2	3.3082
16		7.4135	- 1	2.8421	5.6669	- 2	3.2960
18		7.2766	- 1	2.8242	5.7613	- 2	3.2841
20		7.1494	- 1	2.8073	5.8454	- 2	3.2725
22		7.0303	- 1	2.7913	5.9208	- 2	3.2611

Table 56

N = 300 $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 84.27^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	0	7.8548	- 1	2.8952	4.6818	- 2	3.0528
12		7.6680	- 1	2.8716	4.6450	- 2	3.0292
14		7.4995	- 1	2.8500	4.6063	- 2	3.0082
16		7.3455	- 1	2.8300	4.5671	- 2	2.9892
18		7.2035	- 1	2.8114	4.5283	- 2	2.9716
20		7.0714	- 1	2.7938	4.4900	- 2	2.9553
22		6.9479	- 1	2.7772	4.4525	- 2	2.9399
10	60°	7.8565	- 1	2.8954	4.3790	- 2	2.9891
12		7.6699	- 1	2.8718	4.3150	- 2	2.9600
14		7.5015	- 1	2.8502	4.2522	- 2	2.9342
16		7.3476	- 1	2.8302	4.1912	- 2	2.9108
18		7.2056	- 1	2.8115	4.1325	- 2	2.8892
20		7.0736	- 1	2.7939	4.0760	- 2	2.8692
22		6.9501	- 1	2.7773	4.0216	- 2	2.8504
10	120°	7.8565	- 1	2.8954	4.0309	- 2	2.9045
12		7.6699	- 1	2.8718	3.9409	- 2	2.8671
14		7.5015	- 1	2.8502	3.8554	- 2	2.8335
16		7.3476	- 1	2.8302	3.7745	- 2	2.8028
18		7.2056	- 1	2.8115	3.6977	- 2	2.7744
20		7.0736	- 1	2.7939	3.6250	- 2	2.7478
22		6.9501	- 1	2.7773	3.5557	- 2	2.7228
10	180°	7.8548	- 1	2.8952	3.9685	- 2	2.8933
12		7.6680	- 1	2.8716	3.8765	- 2	2.8549
14		7.4995	- 1	2.8500	3.7895	- 2	2.8203
16		7.3455	- 1	2.8300	3.7073	- 2	2.7886
18		7.2035	- 1	2.8114	3.6296	- 2	2.7593
20		7.0714	- 1	2.7938	3.5560	- 2	2.7318
22		6.9479	- 1	2.7772	3.4862	- 2	2.7058
10	240°	7.8532	- 1	2.8951	4.2464	- 2	2.9704
12		7.6662	- 1	2.8716	4.1772	- 2	2.9399
14		7.4976	- 1	2.8500	4.1100	- 2	2.9127
16		7.3437	- 1	2.8301	4.0454	- 2	2.8879
18		7.2017	- 1	2.8114	3.9834	- 2	2.8651
20		7.0697	- 1	2.7939	3.9240	- 2	2.8438
22		6.9462	- 1	2.7773	3.8671	- 2	2.8238
10	300°	7.8532	- 1	2.8951	4.6122	- 2	3.0449
12		7.6662	- 1	2.8716	4.5724	- 2	3.0208
14		7.4976	- 1	2.8500	4.5311	- 2	2.9993
16		7.3437	- 1	2.8301	4.4896	- 2	2.9798
18		7.2017	- 1	2.8114	4.4487	- 2	2.9619
20		7.0697	- 1	2.7939	4.4086	- 2	2.9452
22		6.9462	- 1	2.7773	4.3694	- 2	2.9294

Table 57

N = 300 $\nu = 2(10^7)$ $\phi_i = 82^\circ$ $H_m = 0.5$ $I = 90^\circ$

f, kc	ϕ_a	$\lvert T_{mm} \rvert$		arg T_{mm}	$\lvert T_{me} \rvert$		arg T_{me}
10	0	7.8538	- 1	2.8951	4.3311	- 2	2.9796
12		7.6668	- 1	2.8714	4.2640	- 2	2.9498
14		7.4982	- 1	2.8499	4.1985	- 2	2.9233
16		7.3441	- 1	2.8299	4.1353	- 2	2.8993
18		7.2020	- 1	2.8112	4.0746	- 2	2.8771
20		7.0700	- 1	2.7936	4.0163	- 2	2.8565
22		6.9464	- 1	2.7770	3.9604	- 2	2.8371
10	240°	7.8538	- 1	2.8951	4.3311	- 2	2.9796

Table 58

$\omega/\omega_r = 0.3002$

ϕ_i degrees	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{mm} \rvert$		arg T_{mm}
			ϕ_1 = 10 degrees			
5	4.455	- 1	5.546	4.484	- 1	2.409
15	4.338	- 1	5.525	4.602	- 1	2.429
25	4.099	- 1	5.477	4.841	- 1	2.469
35	3.739	- 1	5.385	5.209	- 1	2.528
45	3.277	- 1	5.212	5.715	- 1	2.607
55	2.841	- 1	4.875	6.371	- 1	2.704
65	2.900	- 1	4.300	7.187	- 1	2.816
75	4.262	- 1	3.708	8.175	- 1	2.941
85	7.470	- 1	3.304	9.344	- 1	3.074
			ϕ_1 = 20 degrees			
5	4.489	- 1	5.537	4.518	- 1	2.401
15	4.373	- 1	5.516	4.634	- 1	2.421
25	4.137	- 1	5.467	4.871	- 1	2.462
35	3.783	- 1	5.373	5.234	- 1	2.522
45	3.334	- 1	5.199	5.734	- 1	2.603
55	2.917	- 1	4.867	6.381	- 1	2.701
65	2.982	- 1	4.307	7.188	- 1	2.815
75	4.315	- 1	3.721	8.168	- 1	2.940
85	7.487	- 1	3.309	9.337	- 1	3.074
			ϕ_1 = 30 degrees			
5	4.549	- 1	5.523	4.578	- 1	2.387
15	4.435	- 1	5.501	4.692	- 1	2.408
25	4.205	- 1	5.450	4.924	- 1	2.451
35	3.863	- 1	5.354	5.279	- 1	2.513
45	3.435	- 1	5.179	5.767	- 1	2.596
55	3.047	- 1	4.855	6.399	- 1	2.696
65	3.120	- 1	4.319	7.188	- 1	2.811
75	4.406	- 1	3.743	8.155	- 1	2.938
85	7.517	- 1	3.318	9.325	- 1	3.073

Table 59

$\omega/\omega_r = 0.3002$

ϕ_i degrees	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{mm} \rvert$		arg T_{mm}
			ϕ_1 = 40 degrees			
5	4.641	- 1	5.504	4.669	- 1	2.368
15	4.531	- 1	5.481	4.780	- 1	2.391
25	4.311	- 1	5.428	5.004	- 1	2.435
35	3.987	- 1	5.329	5.346	- 1	2.501
45	3.588	- 1	5.155	5.816	- 1	2.586
55	3.237	- 1	4.842	6.424	- 1	2.688
65	3.316	- 1	4.338	7.189	- 1	2.806
75	4.535	- 1	3.775	8.136	- 1	2.935
85	7.558	- 1	3.331	9.306	- 1	3.072
			ϕ_1 = 50 degrees			
5	4.774	- 1	5.482	4.800	- 1	2.346
15	4.670	- 1	5.457	4.905	- 1	2.370
25	4.463	- 1	5.401	5.117	- 1	2.416
35	4.164	- 1	5.301	5.440	- 1	2.485
45	3.804	- 1	5.129	5.883	- 1	2.573
55	3.495	- 1	4.832	6.460	- 1	2.678
65	3.575	- 1	4.365	7.191	- 1	2.798
75	4.704	- 1	3.817	8.110	- 1	2.931
85	7.610	- 1	3.349	9.281	- 1	3.071
			ϕ_1 = 60 degrees			
5	4.957	- 1	5.457	4.981	- 1	2.321
15	4.862	- 1	5.430	5.077	- 1	2.346
25	4.675	- 1	5.373	5.271	- 1	2.395
35	4.408	- 1	5.273	5.567	- 1	2.466
45	4.093	- 1	5.105	5.975	- 1	2.556
55	3.827	- 1	4.829	6.509	- 1	2.664
65	3.899	- 1	4.400	7.195	- 1	2.788
75	4.914	- 1	3.868	8.078	- 1	2.924
85	7.673	- 1	3.371	9.249	- 1	3.069

Table 60

$\omega/\omega_r = 0.3002$

ϕ_i degrees	$\lvert T_{em} \rvert$		arg T_{em}	$\lvert T_{me} \rvert$		arg T_{me}
			ϕ_1 = 10 degrees			
5	4.187	- 2	3.053	4.182	- 2	3.048
15	4.205	- 2	3.069	4.163	- 2	3.032
25	4.231	- 2	3.101	4.130	- 2	3.000
35	4.241	- 2	3.146	4.089	- 2	2.957
45	4.197	- 2	3.199	4.028	- 2	2.908
55	4.038	- 2	3.254	3.897	- 2	2.862
65	3.660	- 2	3.302	3.579	- 2	2.823
75	2.877	- 2	3.330	2.854	- 2	2.788
85	1.309	- 2	3.317	1.310	- 2	2.742
			ϕ_1 = 20 degrees			
5	8.440	- 2	3.056	8.431	- 2	3.052
15	8.474	- 2	3.073	8.396	- 2	3.036
25	8.519	- 2	3.104	8.337	- 2	3.004
35	8.531	- 2	3.148	8.260	- 2	2.962
45	8.433	- 2	3.200	8.140	- 2	2.914
55	8.104	- 2	3.254	7.874	- 2	2.868
65	7.341	- 2	3.300	7.229	- 2	2.829
75	5.767	- 2	3.325	5.761	- 2	2.792
85	2.623	- 2	3.308	2.643	- 2	2.743
			ϕ_1 = 30 degrees			
5	1.283	- 1	3.062	1.282	- 1	3.058
15	1.287	- 1	3.079	1.277	- 1	3.042
25	1.292	- 1	3.110	1.270	- 1	3.011
35	1.292	- 1	3.153	1.260	- 1	2.970
45	1.275	- 1	3.203	1.242	- 1	2.924
55	1.223	- 1	3.254	1.201	- 1	2.879
65	1.107	- 1	3.296	1.102	- 1	2.839
75	8.689	- 2	3.317	8.775	- 2	2.800
85	3.950	- 2	3.294	4.024	- 2	2.746

Table 61

$\omega/\omega_r = 0.3002$

ϕ_i degrees	$\lvert T_{em} \rvert$		arg T_{em}	$\lvert T_{me} \rvert$		arg T_{me}
			ϕ_1 = 40 degrees			
5	1.743	- 1	3.072	1.741	- 1	3.068
15	1.747	- 1	3.088	1.737	- 1	3.052
25	1.751	- 1	3.118	1.729	- 1	3.022
35	1.746	- 1	3.159	1.718	- 1	2.982
45	1.719	- 1	3.207	1.696	- 1	2.938
55	1.646	- 1	3.254	1.640	- 1	2.894
65	1.487	- 1	3.291	1.503	- 1	2.854
75	1.167	- 1	3.305	1.196	- 1	2.812
85	5.305	- 2	3.273	5.479	- 2	2.751
			ϕ_1 = 50 degrees			
5	2.230	- 1	3.085	2.229	- 1	3.081
15	2.233	- 1	3.101	2.226	- 1	3.066
25	2.233	- 1	3.129	2.220	- 1	3.038
35	2.222	- 1	3.168	2.210	- 1	3.000
45	2.182	- 1	3.212	2.183	- 1	2.958
55	2.085	- 1	3.254	2.111	- 1	2.916
65	1.881	- 1	3.284	1.933	- 1	2.874
75	1.476	- 1	3.290	1.537	- 1	2.828
85	6.710	- 2	3.246	7.040	- 2	2.757
			ϕ_1 = 60 degrees			
5	2.753	- 1	3.104	2.753	- 1	3.100
15	2.753	- 1	3.118	2.753	- 1	3.086
25	2.747	- 1	3.144	2.751	- 1	3.059
35	2.726	- 1	3.180	2.743	- 1	3.024
45	2.670	- 1	3.219	2.712	- 1	2.984
55	2.546	- 1	3.254	2.622	- 1	2.944
65	2.296	- 1	3.277	2.399	- 1	2.901
75	1.802	- 1	3.272	1.907	- 1	2.848
85	8.205	- 2	3.213	8.744	- 2	2.766

Table 62

$\omega/\omega_r = 0.467$

ϕ_i degrees	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{mm} \rvert$		arg T_{mm}
			ϕ_1 = 10 degrees			
5	3.586	- 1	5.397	3.616	- 1	2.258
15	3.465	- 1	5.371	3.738	- 1	2.280
25	3.222	- 1	5.315	3.989	- 1	2.325
35	2.863	- 1	5.200	4.382	- 1	2.393
45	2.448	- 1	4.965	4.936	- 1	2.485
55	2.222	- 1	4.508	5.672	- 1	2.601
65	2.768	- 1	3.912	6.609	- 1	2.738
75	4.511	- 1	3.491	7.773	- 1	2.893
85	7.680	- 1	3.241	9.189	- 1	3.057
			ϕ_1 = 20 degrees			
5	3.606	- 1	5.379	3.637	- 1	2.243
15	3.485	- 1	5.354	3.759	- 1	2.266
25	3.244	- 1	5.295	4.009	- 1	2.312
35	2.893	- 1	5.175	4.401	- 1	2.383
45	2.498	- 1	4.936	4.950	- 1	2.478
55	2.307	- 1	4.488	5.677	- 1	2.597
65	2.868	- 1	3.917	6.605	- 1	2.736
75	4.586	- 1	3.502	7.760	- 1	2.892
85	7.711	- 1	3.246	9.179	- 1	3.057
			ϕ_1 = 30 degrees			
5	3.646	- 1	5.351	3.676	- 1	2.216
15	3.525	- 1	5.325	3.798	- 1	2.241
25	3.288	- 1	5.261	4.047	- 1	2.291
35	2.951	- 1	5.135	4.434	- 1	2.366
45	2.592	- 1	4.891	4.973	- 1	2.467
55	2.458	- 1	4.459	5.685	- 1	2.590
65	3.038	- 1	3.926	6.595	- 1	2.733
75	4.713	- 1	3.521	7.738	- 1	2.891
85	7.763	- 1	3.254	9.162	- 1	3.057

Table 63

$\omega/\omega_r = 0.467$

ϕ_i degrees	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{mm} \rvert$		arg T_{mm}
			ϕ_1 = 40 degrees			
5	3.714	- 1	5.313	3.744	- 1	2.178
15	3.595	- 1	5.283	3.864	- 1	2.206
25	3.366	- 1	5.214	4.109	- 1	2.261
35	3.055	- 1	5.079	4.486	- 1	2.343
45	2.750	- 1	4.832	5.007	- 1	2.450
55	2.687	- 1	4.427	5.695	- 1	2.580
65	3.285	- 1	3.941	6.578	- 1	2.727
75	4.897	- 1	3.548	7.702	- 1	2.888
85	7.837	- 1	3.265	9.136	- 1	3.057
			ϕ_1 = 50 degrees			
5	3.825	- 1	5.263	3.854	- 1	2.130
15	3.712	- 1	5.230	3.970	- 1	2.161
25	3.500	- 1	5.153	4.204	- 1	2.223
35	3.230	- 1	5.011	4.561	- 1	2.313
45	2.996	- 1	4.767	5.054	- 1	2.428
55	3.012	- 1	4.398	5.704	- 1	2.565
65	3.617	- 1	3.964	6.550	- 1	2.719
75	5.142	- 1	3.583	7.651	- 1	2.885
85	7.936	- 1	3.280	9.099	- 1	3.057
			ϕ_1 = 60 degrees			
5	4.004	- 1	5.205	4.031	- 1	2.072
15	3.903	- 1	5.167	4.136	- 1	2.107
25	3.722	- 1	5.084	4.347	- 1	2.176
35	3.509	- 1	4.938	4.669	- 1	2.275
45	3.360	- 1	4.707	5.116	- 1	2.399
55	3.451	- 1	4.381	5.713	- 1	2.545
65	4.046	- 1	3.997	6.508	- 1	2.706
75	5.455	- 1	3.627	7.577	- 1	2.879
85	8.061	- 1	3.299	9.050	- 1	3.056

Table 64

$\omega/\omega_r = 0.467$

ϕ_i degrees	$\lvert T_{em} \rvert$		arg T_{em}	$\lvert T_{me} \rvert$		arg T_{me}
			ϕ_1 = 10 degrees			
5	4.101	- 2	2.831	4.091	- 2	2.825
15	4.143	- 2	2.854	4.051	- 2	2.801
25	4.211	- 2	2.900	3.989	- 2	2.755
35	4.277	- 2	2.967	3.934	- 2	2.688
45	4.289	- 2	3.049	3.901	- 2	2.613
55	4.171	- 2	3.141	3.845	- 2	2.547
65	3.804	- 2	3.232	3.616	- 2	2.506
75	2.989	- 2	3.309	2.935	- 2	8.774
85	1.350	- 2	3.354	1.353	- 2	8.772
			ϕ_1 = 20 degrees			
5	8.293	- 2	2.831	8.272	- 2	2.825
15	8.371	- 2	2.855	8.197	- 2	2.802
25	8.499	- 2	2.901	8.082	- 2	2.754
35	8.615	- 2	2.968	7.985	- 2	2.688
45	8.620	- 2	3.050	7.927	- 2	2.615
55	8.362	- 2	3.140	7.811	- 2	2.551
65	7.609	- 2	3.229	7.335	- 2	2.281
75	5.969	- 2	3.302	5.942	- 2	8.778
85	2.692	- 2	3.343	2.733	- 2	8.773
			ϕ_1 = 30 degrees			
5	1.267	- 1	2.832	1.264	- 1	2.826
15	1.278	- 1	2.856	1.254	- 1	2.802
25	1.294	- 1	2.903	1.240	- 1	2.755
35	1.308	- 1	2.969	1.228	- 1	2.690
45	1.303	- 1	3.050	1.221	- 1	2.619
55	1.259	- 1	3.138	1.203	- 1	2.558
65	1.142	- 1	3.222	1.127	- 1	2.519
75	8.933	- 2	3.290	9.097	- 2	8.784
85	4.018	- 2	3.324	4.170	- 2	8.774

Table 65

$\omega/\omega_r = 0.467$

ϕ_i degrees	$\lvert T_{em} \rvert$		arg T_{em}	$\lvert T_{me} \rvert$		arg T_{me}
			ϕ_1 = 40 degrees			
5	1.736	- 1	2.835	1.732	- 1	2.828
15	1.747	- 1	2.859	1.721	- 1	2.804
25	1.764	- 1	2.906	1.707	- 1	2.757
35	1.774	- 1	2.972	1.697	- 1	2.694
45	1.758	- 1	3.050	1.692	- 1	2.627
55	1.690	- 1	3.134	1.665	- 1	2.570
65	1.525	- 1	3.212	1.553	- 1	2.531
75	1.189	- 1	3.272	1.248	- 1	2.510
85	5.328	- 2	3.295	5.698	- 2	8.776
			ϕ_1 = 50 degrees			
5	2.248	- 1	2.840	2.245	- 1	2.833
15	2.258	- 1	2.864	2.236	- 1	2.809
25	2.269	- 1	2.911	2.226	- 1	2.763
35	2.268	- 1	2.975	2.224	- 1	2.703
45	2.233	- 1	3.050	2.221	- 1	2.640
55	2.133	- 1	3.127	2.182	- 1	2.587
65	1.915	- 1	3.196	2.027	- 1	2.550
75	1.486	- 1	3.245	1.621	- 1	2.524
85	6.634	- 2	3.256	7.358	- 2	2.496
			ϕ_1 = 60 degrees			
5	2.822	- 1	2.849	2.821	- 1	2.843
15	2.825	- 1	2.873	2.818	- 1	2.819
25	2.823	- 1	2.918	2.820	- 1	2.775
35	2.802	- 1	2.979	2.829	- 1	2.719
45	2.738	- 1	3.048	2.830	- 1	2.663
55	2.598	- 1	3.116	2.773	- 1	2.614
65	2.320	- 1	3.174	2.564	- 1	2.575
75	1.793	- 1	3.210	2.038	- 1	2.543
85	7.972	- 2	3.203	9.201	- 2	2.502

Table 66

ϕ_1 = 60 degrees

ω/ω_r	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{mm} \rvert$		arg T_{mm}
			ϕ_i = 5 degrees			
0.0100	8.843	- 1	6.155	8.851	- 1	3.015
0.0200	8.403	- 1	6.099	8.414	- 1	2.959
0.0500	7.591	- 1	5.983	7.607	- 1	2.844
0.1000	6.760	- 1	5.844	6.779	- 1	2.706
0.2000	5.703	- 1	5.632	5.725	- 1	2.495
0.3002	4.957	- 1	5.457	4.981	- 1	2.321
0.4670	4.004	- 1	5.205	4.031	- 1	2.072
1.0000	1.949	- 1	4.662	1.987	- 1	1.532
2.0000	7.322	- 2	4.531	7.475	- 2	1.389
5.0000	2.554	- 2	4.618	2.596	- 2	1.475
			ϕ_i = 15 degrees			
0.0100	8.809	- 1	6.151	8.884	- 1	3.018
0.0200	8.358	- 1	6.094	8.458	- 1	2.964
0.0500	7.528	- 1	5.974	7.669	- 1	2.852
0.1000	6.682	- 1	5.831	6.856	- 1	2.718
0.2000	5.613	- 1	5.612	5.815	- 1	2.514
0.3002	4.862	- 1	5.430	5.077	- 1	2.346
0.4670	3.903	- 1	5.167	4.136	- 1	2.107
1.0000	1.800	- 1	4.602	2.143	- 1	1.582
2.0000	6.667	- 2	4.531	8.131	- 2	1.389
5.0000	2.377	- 2	4.624	2.773	- 2	1.469
			ϕ_i = 25 degrees			
0.0100	8.736	- 1	6.143	8.949	- 1	3.026
0.0200	8.261	- 1	6.082	8.545	- 1	2.975
0.0500	7.393	- 1	5.955	7.792	- 1	2.869
0.1000	6.518	- 1	5.803	7.010	- 1	2.743
0.2000	5.429	- 1	5.569	5.996	- 1	2.551
0.3002	4.675	- 1	5.373	5.271	- 1	2.395
0.4670	3.722	- 1	5.084	4.347	- 1	2.176
1.0000	1.553	- 1	4.413	2.464	- 1	1.690
2.0000	5.082	- 2	4.519	9.726	- 2	1.396
5.0000	1.968	- 2	4.646	3.184	- 2	1.458

Table 67

ϕ_1 = 60 degrees

ω/ω_r	$\lvert T_{ee}\rvert$		arg T_{ee}	$\lvert T_{mm}\rvert$		arg T_{mm}
			ϕ_i = 35 degrees			
0.0100	8.613	- 1	6.128	9.044	- 1	3.036
0.0200	8.098	- 1	6.061	8.674	- 1	2.990
0.0500	7.169	- 1	5.922	7.976	- 1	2.894
0.1000	6.252	- 1	5.754	7.240	- 1	2.778
0.2000	5.146	- 1	5.494	6.270	- 1	2.605
0.3002	4.408	- 1	5.273	5.567	- 1	2.466
0.4670	3.509	- 1	4.938	4.669	- 1	2.275
1.0000	1.467	- 1	3.985	2.943	- 1	1.861
2.0000	1.852	- 2	4.241	1.308	- 1	1.433
5.0000	1.178	- 2	4.745	3.987	- 2	1.438
			ϕ_i = 45 degrees			
0.0100	8.413	- 1	6.105	9.168	- 1	3.050
0.0200	7.837	- 1	6.027	8.842	- 1	3.010
0.0500	6.820	- 1	5.866	8.218	- 1	2.925
0.1000	5.855	- 1	5.671	7.548	- 1	2.825
0.2000	4.762	- 1	5.367	6.643	- 1	2.675
0.3002	4.093	- 1	5.105	5.975	- 1	2.556
0.4670	3.360	- 1	4.707	5.116	- 1	2.399
1.0000	1.950	- 1	3.536	3.559	- 1	2.080
2.0000	5.837	- 2	2.012	1.999	- 1	1.572
5.0000	5.928	- 3	7.894 - 1	5.633	- 2	1.409
			ϕ_i = 55 degrees			
0.0100	8.086	- 1	6.064	9.319	- 1	3.067
0.0200	7.417	- 1	5.968	9.046	- 1	3.033
0.0500	6.285	- 1	5.769	8.517	- 1	2.963
0.1000	5.289	- 1	5.526	7.933	- 1	2.880
0.2000	4.308	- 1	5.146	7.122	- 1	2.759
0.3002	3.827	- 1	4.829	6.509	- 1	2.664
0.4670	3.451	- 1	4.381	5.713	- 1	2.545
1.0000	2.953	- 1	3.323	4.328	- 1	2.322
2.0000	1.904	- 1	2.237	3.133	- 1	1.892
5.0000	4.582	- 2	1.299	9.743	- 2	1.396

Table 68

ϕ_l = 60 degrees

ω/ω_r	$\lvert T_{ee} \rvert$		arg T_{ee}	$\lvert T_{mm} \rvert$		arg T_{mm}
			ϕ_i = 65 degrees			
0.0100	7.510	- 1	5.985	9.491	- 1	3.085
0.0200	6.706	- 1	5.854	9.282	- 1	3.060
0.0500	5.461	- 1	5.577	8.867	- 1	3.007
0.1000	4.553	- 1	5.239	8.395	- 1	2.945
0.2000	3.971	- 1	4.748	7.718	- 1	2.855
0.3002	3.899	- 1	4.400	7.195	- 1	2.788
0.4670	4.046	- 1	3.997	6.508	- 1	2.706
1.0000	4.310	- 1	3.243	5.332	- 1	2.569
2.0000	3.598	- 1	2.567	4.474	- 1	2.293
5.0000	1.781	- 1	1.653	2.310	- 1	1.622
			ϕ_i = 75 degrees			
0.0100	6.342	- 1	5.790	9.681	- 1	3.106
0.0200	5.401	- 1	5.564	9.544	- 1	3.090
0.0500	4.346	- 1	5.090	9.265	- 1	3.056
0.1000	4.091	- 1	4.599	8.937	- 1	3.017
0.2000	4.478	- 1	4.113	8.455	- 1	2.963
0.3002	4.914	- 1	3.868	8.078	- 1	2.924
0.4670	5.455	- 1	3.627	7.577	- 1	2.879
1.0000	6.062	- 1	3.205	6.717	- 1	2.810
2.0000	5.596	- 1	2.844	6.111	- 1	2.668
5.0000	4.320	- 1	2.358	4.718	- 1	2.291
			ϕ_i = 85 degrees			
0.0100	4.138	- 1	4.719	9.883	- 1	3.128
0.0200	4.452	- 1	4.252	9.830	- 1	3.122
0.0500	5.526	- 1	3.807	9.719	- 1	3.111
0.1000	6.441	- 1	3.592	9.589	- 1	3.098
0.2000	7.260	- 1	3.442	9.398	- 1	3.081
0.3002	7.673	- 1	3.371	9.249	- 1	3.069
0.4670	8.061	- 1	3.299	9.050	- 1	3.056
1.0000	8.441	- 1	3.167	8.699	- 1	3.037
2.0000	8.238	- 1	3.057	8.428	- 1	2.997
5.0000	7.642	- 1	2.923	7.800	- 1	2.895

Table 69

ϕ_1 = 60 degrees

ω/ω_r	$\lvert T_{em} \rvert$		arg T_{em}	$\lvert T_{me} \rvert$		arg T_{me}
			ϕ_i = 5 degrees			
0.0100	8.847	- 2	3.800	8.847	- 2	3.799
0.0200	1.189	- 1	3.744	1.189	- 1	3.744
0.0500	1.700	- 1	3.628	1.700	- 1	3.628
0.1000	2.143	- 1	3.490	2.143	- 1	3.489
0.2000	2.568	- 1	3.279	2.568	- 1	3.276
0.3002	2.753	- 1	3.104	2.753	- 1	3.100
0.4670	2.822	- 1	2.849	2.821	- 1	2.843
1.0000	2.188	- 1	2.233	2.168	- 1	2.220
2.0000	1.120	- 1	1.846	1.102	- 1	1.841
5.0000	4.385	- 2	1.673	4.318	- 2	1.671
			ϕ_i = 15 degrees			
0.0100	8.847	- 2	3.800	8.847	- 2	3.799
0.0200	1.189	- 1	3.745	1.189	- 1	3.743
0.0500	1.700	- 1	3.631	1.700	- 1	3.625
0.1000	2.143	- 1	3.494	2.143	- 1	3.484
0.2000	2.568	- 1	3.288	2.568	- 1	3.267
0.3002	2.753	- 1	3.118	2.753	- 1	3.086
0.4670	2.825	- 1	2.873	2.818	- 1	2.819
1.0000	2.264	- 1	2.286	2.100	- 1	2.163
2.0000	1.194	- 1	1.869	1.029	- 1	1.815
5.0000	4.668	- 2	1.680	4.035	- 2	1.663
			ϕ_i = 25 degrees			
0.0100	8.842	- 2	3.800	8.842	- 2	3.798
0.0200	1.188	- 1	3.746	1.188	- 1	3.741
0.0500	1.698	- 1	3.634	1.698	- 1	3.621
0.1000	2.140	- 1	3.502	2.140	- 1	3.475
0.2000	2.563	- 1	3.305	2.565	- 1	3.250
0.3002	2.747	- 1	3.144	2.751	- 1	3.059
0.4670	2.823	- 1	2.918	2.820	- 1	2.775
1.0000	2.389	- 1	2.396	2.036	- 1	2.033
2.0000	1.363	- 1	1.922	8.710	- 2	8.005
5.0000	5.312	- 2	1.695	3.395	- 2	1.636

Table 70

ϕ_1 = 60 degrees

ω/ω_r	$\lvert T_{em} \rvert$		arg T_{em}	$\lvert T_{me} \rvert$		arg T_{me}
			ϕ_i = 35 degrees			
0.0100	8.826	- 2	3.800	8.826	- 2	3.795
0.0200	1.185	- 1	3.746	1.185	- 1	3.737
0.0500	1.691	- 1	3.638	1.691	- 1	3.613
0.1000	2.128	- 1	3.512	2.130	- 1	3.462
0.2000	2.545	- 1	3.327	2.552	- 1	3.226
0.3002	2.726	- 1	3.180	2.743	- 1	3.024
0.4670	2.802	- 1	2.979	2.829	- 1	2.719
1.0000	2.502	- 1	2.558	2.114	- 1	8.138
2.0000	1.671	- 1	2.032	6.617	- 2	7.646
5.0000	6.528	- 2	1.725	2.216	- 2	7.799
			ϕ_i = 45 degrees			
0.0100	8.783	- 2	3.798	8.783	- 2	3.790
0.0200	1.177	- 1	3.744	1.177	- 1	3.729
0.0500	1.673	- 1	3.638	1.674	- 1	3.601
0.1000	2.099	- 1	3.519	2.103	- 1	3.444
0.2000	2.499	- 1	3.349	2.517	- 1	3.197
0.3002	2.670	- 1	3.219	2.712	- 1	2.984
0.4670	2.738	- 1	3.048	2.830	- 1	2.663
1.0000	2.532	- 1	2.750	2.370	- 1	8.005
2.0000	2.153	- 1	2.255	8.678	- 2	6.868
5.0000	8.835	- 2	1.785	9.844	- 3	6.328
			ϕ_i = 55 degrees			
0.0100	8.680	- 2	3.790	8.680	- 2	3.780
0.0200	1.158	- 1	3.736	1.158	- 1	3.716
0.0500	1.632	- 1	3.632	1.634	- 1	3.581
0.1000	2.031	- 1	3.519	2.038	- 1	3.418
0.2000	2.396	- 1	3.366	2.428	- 1	3.162
0.3002	2.546	- 1	3.254	2.622	- 1	2.944
0.4670	2.598	- 1	3.116	2.773	- 1	2.614
1.0000	2.434	- 1	2.947	2.634	- 1	7.964
2.0000	2.581	- 1	2.623	1.734	- 1	6.785
5.0000	1.365	- 1	1.921	5.548	- 2	5.456

Table 71

ϕ_l = 60 degrees

ω/ω_r	$\lvert T_{em} \rvert$		arg T_{em}	$\lvert T_{me} \rvert$		arg T_{me}
			ϕ_i = 65 degrees			
0.0100	8.439	- 2	3.770	8.440	- 2	3.758
0.0200	1.114	- 1	3.712	1.114	- 1	3.688
0.0500	1.541	- 1	3.607	1.543	- 1	3.546
0.1000	1.884	- 1	3.501	1.894	- 1	3.378
0.2000	2.183	- 1	3.368	2.226	- 1	3.120
0.3002	2.296	- 1	3.277	2.399	- 1	2.901
0.4670	2.320	- 1	3.174	2.564	- 1	2.575
1.0000	2.173	- 1	3.129	2.671	- 1	7.990
2.0000	2.591	- 1	3.020	2.374	- 1	7.036
5.0000	2.354	- 1	2.338	1.706	- 1	5.792
			ϕ_i = 75 degrees			
0.0100	7.812	- 2	3.718	7.812	- 2	3.704
0.0200	1.003	- 1	3.651	1.003	- 1	3.623
0.0500	1.326	- 1	3.542	1.329	- 1	3.472
0.1000	1.561	- 1	3.445	1.571	- 1	3.305
0.2000	1.744	- 1	3.337	1.790	- 1	3.056
0.3002	1.802	- 1	3.272	1.907	- 1	2.848
0.4670	1.793	- 1	3.210	2.038	- 1	2.543
1.0000	1.667	- 1	3.286	2.240	- 1	8.050
2.0000	2.121	- 1	3.367	2.295	- 1	7.307
5.0000	2.725	- 1	3.055	2.527	- 1	6.509
			ϕ_i = 85 degrees			
0.0100	5.395	- 2	3.528	5.395	- 2	3.513
0.0200	6.288	- 2	3.453	6.290	- 2	3.423
0.0500	7.296	- 2	3.359	7.309	- 2	3.285
0.1000	7.861	- 2	3.296	7.919	- 2	3.147
0.2000	8.188	- 2	3.240	8.429	- 2	2.942
0.3002	8.205	- 2	3.213	8.744	- 2	2.766
0.4670	7.972	- 2	3.203	9.201	- 2	2.502
1.0000	7.329	- 2	3.407	1.031	- 1	8.125
2.0000	9.839	- 2	3.651	1.148	- 1	7.555
5.0000	1.498	- 1	3.642	1.525	- 1	7.085

Table 72

ϕ_1 = 60 degrees

ϕ_i degrees	$\lvert T_{ee} \rvert$		arg T_{ee}		$\lvert T_{mm} \rvert$		arg T_{mm}	
			ω/ω_r = 0.1501					
5	6.171	- 1	5.731		6.192	- 1	2.593	
15	6.085	- 1	5.715		6.277	- 1	2.609	
25	5.908	- 1	5.679		6.447	- 1	2.640	
35	5.627	- 1	5.616		6.704	- 1	2.685	
45	5.226	- 1	5.511		7.051	- 1	2.744	
55	4.700	- 1	5.325		7.490	- 1	2.815	
65	4.151	- 1	4.970		8.028	- 1	2.896	
75	4.249	- 1	4.305		8.677	- 1	2.987	
85	6.937	- 1	3.498		9.486	- 1	3.088	
			ω/ω_r = 0.2335					
5	5.431	- 1	5.570		5.454	- 1	2.434	
15	5.339	- 1	5.549		5.546	- 1	2.455	
25	5.153	- 1	5.501		5.732	- 1	2.496	
35	4.873	- 1	5.417		6.015	- 1	2.556	
45	4.508	- 1	5.277		6.402	- 1	2.632	
55	4.112	- 1	5.035		6.902	- 1	2.725	
65	3.918	- 1	4.619		7.531	- 1	2.831	
75	4.632	- 1	4.016		8.321	- 1	2.949	
85	7.423	- 1	3.414		9.345	- 1	3.076	

ϕ_i degrees	$\lvert T_{em} \rvert$		arg T_{em}		$\lvert T_{me} \rvert$		arg T_{me}	
			ω/ω_r = 0.1501					
5	2.402	- 1	2.359	- 1	2.402	- 1	2.342	- 1
15	2.401	- 1	2.427	- 1	2.401	- 1	2.273	- 1
25	2.397	- 1	2.550	- 1	2.398	- 1	2.142	- 1
35	2.382	- 1	2.704	- 1	2.386	- 1	1.954	- 1
45	2.343	- 1	2.853	- 1	2.353	- 1	1.716	- 1
55	2.255	- 1	2.934	- 1	2.272	- 1	1.413	- 1
65	2.070	- 1	2.850	- 1	2.093	- 1	9.933	- 2
75	1.678	- 1	2.413	- 1	1.703	- 1	3.091	- 2
85	8.088	- 2	1.201	- 1	8.223	- 2	6.180	
			ω/ω_r = 0.2335					
5	2.648	- 1	7.590	- 2	2.648	- 1	7.313	- 2
15	2.647	- 1	8.668	- 2	2.647	- 1	6.230	- 2
25	2.642	- 1	1.067	- 1	2.644	- 1	4.191	- 2
35	2.623	- 1	1.330	- 1	2.633	- 1	1.420	- 2
45	2.573	- 1	1.609	- 1	2.598	- 1	6.265	
55	2.462	- 1	1.839	- 1	2.506	- 1	6.228	
65	2.234	- 1	1.925	- 1	2.295	- 1	6.185	
75	1.772	- 1	1.705	- 1	1.835	- 1	6.126	
85	8.214	- 2	8.717	- 2	8.543	- 2	6.022	

U. S. DEPARTMENT OF COMMERCE
Frederick H. Mueller, Secretary

NATIONAL BUREAU OF STANDARDS
A. V. Astin, Director

THE NATIONAL BUREAU OF STANDARDS

The scope of activities of the National Bureau of Standards at its major laboratories in Washington, D.C., and Boulder, Colorado, is suggested in the following listing of the divisions and sections engaged in technical work. In general, each section carries out specialized research, development, and engineering in the field indicated by its title. A brief description of the activities, and of the resultant publications, appears on the inside of the front cover.

WASHINGTON, D.C.

Electricity and Electronics. Resistance and Reactance. Electron Devices. Electrical Instruments. Magnetic Measurements. Dielectrics. Engineering Electronics. Electronic Instrumentation. Electrochemistry.

Optics and Metrology. Photometry and Colorimetry. Photographic Technology. Length. Engineering Metrology.

Heat. Temperature Physics. Thermodynamics. Cryogenic Physics. Rheology. Molecular Kinetics. Free Radicals Research.

Atomic and Radiation Physics. Spectroscopy. Radiometry. Mass Spectrometry. Solid State Physics. Electron Physics. Atomic Physics. Neutron Physics. Radiation Theory. Radioactivity. X-rays. High Energy Radiation. Nucleonic Instrumentation. Radiological Equipment.

Chemistry. Organic Coatings. Surface Chemistry. Organic Chemistry. Analytical Chemistry. Inorganic Chemistry. Electrodeposition. Molecular Structure and Properties of Gases. Physical Chemistry. Thermochemistry. Spectrochemistry. Pure Substances.

Mechanics. Sound. Mechanical Instruments. Fluid Mechanics. Engineering Mechanics. Mass and Scale. Capacity, Density, and Fluid Meters. Combustion Controls.

Organic and Fibrous Materials. Rubber. Textiles. Paper. Leather. Testing and Specifications. Polymer Structure. Plastics. Dental Research.

Metallurgy. Thermal Metallurgy. Chemical Metallurgy. Mechanical Metallurgy. Corrosion. Metal Physics.

Mineral Products. Engineering Ceramics. Glass. Refractories. Enameled Metals. Constitution and Microstructure.

Building Technology. Structural Engineering. Fire Protection. Air Conditioning, Heating, and Refrigeration. Floor, Roof, and Wall Coverings. Codes and Safety Standards. Heat Transfer. Concreting Materials.

Applied Mathematics. Numerical Analysis. Computation. Statistical Engineering. Mathematical Physics.

Data Processing Systems. SEAC Engineering Group. Components and Techniques. Digital Circuitry. Digital Systems. Analog Systems. Application Engineering.

- Office of Basic Instrumentation.
- Office of Weights and Measures.

BOULDER, COLORADO

Cryogenic Engineering. Cryogenic Equipment. Cryogenic Processes. Properties of Materials. Gas Liquefaction.

Radio Propagation Physics. Upper Atmosphere Research. Ionospheric Research. Regular Propagation Services. Sun-Earth Relationships. VHF Research. Radio Warning Services. Airglow and Aurora. Radio Astronomy and Arctic Propagation.

Radio Propagation Engineering. Data Reduction Instrumentation. Modulation Research. Radio Noise. Tropospheric Measurements. Tropospheric Analysis. Propagation Obstacles Engineering. Radio-Meteorology. Lower Atmosphere Physics.

Radio Standards. High Frequency Electrical Standards. Radio Broadcast Service. High Frequency Impedance Standards. Electronic Calibration Center. Microwave Physics. Microwave Circuit Standards.

Radio Communication and Systems. Low Frequency and Very Low Frequency Research. High Frequency and Very High Frequency Research. Ultra High Frequency and Super High Frequency Research. Modulation Research. Antenna Research. Navigation Systems. Systems Analysis. Field Operations.


NBS