1998 CODATA recommended values of the fundamental constants of physics and chemistry / #c values from P.J. Mohr and B. N. Taylor.

1998 CODATA RECOMMENDED VALUES OF THE FUNDAMENTAL CONSTANTS OF PHYSICS AND CHEMISTRY

NIST SP 961 (Jan/2001) Values from: P. J. Mohr and B. N. Taylor, J. Phys. Chem. Ref. Data **28**, 1713 (1999) and Rev. Mod. Phys. **72**, 351 (2000).
A more extensive listing of constants is available in the above references and on the NIST Physics Laboratory Web site physics.nist.gov/constants.
The number in parenthesis is the one-standard-deviation uncertainty in the last two digits of the given value.

Quantity	Symbol	Numerical value	Unit
speed of light in vacuum	c, c_0	299 792 458 (exact)	m s^{-1}
magnetic constant	μ_0	$4\pi \times 10^{-7}$ (exact)	N A^{-2}
		$= 12.566\,370\,614... \times 10^{-7}$	N A^{-2}
electric constant $1/\mu_0 c^2$	ϵ_0	$8.854\,187\,817... \times 10^{-12}$	F m^{-1}
Newtonian constant of gravitation	G	$6.673(10) \times 10^{-11}$	m^3 kg^{-1} s^{-2}
Planck constant	h	$6.626\,068\,76(52) \times 10^{-34}$	J s
in eV s		$4.135\,667\,27(16) \times 10^{-15}$	eV s
$h/2\pi$	$\hbar$	$1.054\,571\,596(82) \times 10^{-34}$	J s
in eV s		$6.582\,118\,89(26) \times 10^{-16}$	eV s
elementary charge	e	$1.602\,176\,462(63) \times 10^{-19}$	C
magnetic flux quantum $h/2e$	Φ_0	$2.067\,833\,636(81) \times 10^{-15}$	Wb
Josephson constant $2e/h$	K_J	$483\,597.898(19) \times 10^9$	Hz V^{-1}
von Klitzing constant $h/e^2 = \mu_0 c/2\alpha$	R_K	25 812.807 572(95)	Ω
Bohr magneton $e\hbar/2m_e$	μ_B	$927.400\,899(37) \times 10^{-26}$	J T^{-1}
in eV T^{-1}		$5.788\,381\,749(43) \times 10^{-5}$	eV T^{-1}
nuclear magneton $e\hbar/2m_p$	μ_N	$5.050\,783\,17(20) \times 10^{-27}$	J T^{-1}
in eV T^{-1}		$3.152\,451\,238(24) \times 10^{-8}$	eV T^{-1}
fine-structure constant $e^2/4\pi\epsilon_0\hbar c$	α	$7.297\,352\,533(27) \times 10^{-3}$	
inverse fine-structure constant	α^{-1}	137.035 999 76(50)	
Rydberg constant $\alpha^2 m_e c/2h$	R_∞	10 973 731.568 549(83)	m^{-1}
	$R_\infty c$	$3.289\,841\,960\,368(25) \times 10^{15}$	Hz
energy equivalent in eV	$R_\infty hc$	13.605 691 72(53)	eV
Bohr radius $\alpha/4\pi R_\infty = 4\pi\epsilon_0\hbar^2/m_e e^2$	a_0	$0.529\,177\,2083(19) \times 10^{-10}$	m
Hartree energy $e^2/4\pi\epsilon_0 a_0 = 2R_\infty hc = \alpha^2 m_e c^2$	E_h	$4.359\,743\,81(34) \times 10^{-18}$	J
in eV		27.211 3834(11)	eV
electron mass	m_e	$9.109\,381\,88(72) \times 10^{-31}$	kg
in u		$5.485\,799\,110(12) \times 10^{-4}$	u
energy equivalent in MeV	$m_e c^2$	0.510 998 902(21)	MeV
electron-muon mass ratio	m_e/m_μ	$4.836\,332\,10(15) \times 10^{-3}$	
electron-proton mass ratio	m_e/m_p	$5.446\,170\,232(12) \times 10^{-4}$	
electron charge to mass quotient	$-e/m_e$	$-1.758\,820\,174(71) \times 10^{11}$	C kg^{-1}
Compton wavelength $h/m_e c$	λ_C	$2.426\,310\,215(18) \times 10^{-12}$	m
$\lambda_C/2\pi = \alpha a_0 = \alpha^2/4\pi R_\infty$	$\lambda\!\!\!^{-}_C$	$386.159\,2642(28) \times 10^{-15}$	m
classical electron radius $\alpha^2 a_0$	r_e	$2.817\,940\,285(31) \times 10^{-15}$	m
Thomson cross section $(8\pi/3)r_e^2$	σ_e	$0.665\,245\,854(15) \times 10^{-28}$	m^2
electron magnetic moment	μ_e	$-928.476\,362(37) \times 10^{-26}$	J T^{-1}
to Bohr magneton ratio	μ_e/μ_B	$-1.001\,159\,652\,1869(41)$	
to nuclear magneton ratio	μ_e/μ_N	$-1\,838.281\,9660(39)$	
electron magnetic moment anomaly $\lvert\mu_e\rvert/\mu_B - 1$	a_e	$1.159\,652\,1869(41) \times 10^{-3}$	
electron g-factor $-2(1 + a_e)$	g_e	$-2.002\,319\,304\,3737(82)$	
electron-proton magnetic moment ratio	μ_e/μ_p	$-658.210\,6875(66)$	
muon mass in u	m_μ	0.113 428 9168(34)	u
energy equivalent in MeV	$m_\mu c^2$	105.658 3568(52)	MeV
muon-electron mass ratio	m_μ/m_e	206.768 2657(63)	
muon magnetic moment	μ_μ	$-4.490\,448\,13(22) \times 10^{-26}$	J T^{-1}
to Bohr magneton ratio	μ_μ/μ_B	$-4.841\,970\,85(15) \times 10^{-3}$	
to nuclear magneton ratio	μ_μ/μ_N	$-8.890\,597\,70(27)$	
muon magnetic moment anomaly $\lvert\mu_\mu\rvert/(e\hbar/2m_\mu) - 1$	a_μ	$1.165\,916\,02(64) \times 10^{-3}$	

Quantity	Symbol	Numerical value	Unit
muon g-factor $-2(1 + a_\mu)$	g_μ	$-2.002\,331\,8320(13)$	
muon-proton magnetic moment ratio	μ_μ/μ_p	$-3.183\,345\,39(10)$	
proton mass	m_p	$1.672\,621\,58(13) \times 10^{-27}$	kg
in u		1.007 276 466 88(13)	u
energy equivalent in MeV	$m_p c^2$	938.271 998(38)	MeV
proton-electron mass ratio	m_p/m_e	1 836.152 6675(39)	
proton magnetic moment	μ_p	$1.410\,606\,633(58) \times 10^{-26}$	J T^{-1}
to nuclear magneton ratio	μ_p/μ_N	2.792 847 337(29)	
proton magnetic shielding correction $1 - \mu'_p/\mu_p$ (H_2O, sphere, 25 °C)	σ'_p	$25.687(15) \times 10^{-6}$	
proton gyromagnetic ratio $2\mu_p/\hbar$	γ_p	$2.675\,222\,12(11) \times 10^8$	s^{-1} T^{-1}
	$\gamma_p/2\pi$	42.577 4825(18)	MHz T^{-1}
shielded proton gyromagnetic ratio $2\mu'_p/\hbar$ (H_2O, sphere, 25 °C)	γ'_p	$2.675\,153\,41(11) \times 10^8$	s^{-1} T^{-1}
	$\gamma'_p/2\pi$	42.576 3888(18)	MHz T^{-1}
neutron mass in u	m_n	1.008 664 915 78(55)	u
energy equivalent in MeV	$m_n c^2$	939.565 330(38)	MeV
neutron-proton mass ratio	m_n/m_p	1.001 378 418 87(58)	
neutron magnetic moment	μ_n	$-0.966\,236\,40(23) \times 10^{-26}$	J T^{-1}
to nuclear magneton ratio	μ_n/μ_N	$-1.913\,042\,72(45)$	
deuteron mass in u	m_d	2.013 553 212 71(35)	u
energy equivalent in MeV	$m_d c^2$	1 875.612 762(75)	MeV
deuteron-proton mass ratio	m_d/m_p	1.999 007 500 83(41)	
deuteron magnetic moment	μ_d	$0.433\,073\,457(18) \times 10^{-26}$	J T^{-1}
to nuclear magneton ratio	μ_d/μ_N	0.857 438 2284(94)	
helion (^{3}He nucleus) mass in u	m_h	3.014 932 234 69(86)	u
energy equivalent in MeV	$m_h c^2$	2 808.391 32(11)	MeV
shielded helion magnetic moment (gas, sphere, 25 °C)	μ'_h	$-1.074\,552\,967(45) \times 10^{-26}$	J T^{-1}
to Bohr magneton ratio	μ'_h/μ_B	$-1.158\,671\,474(14) \times 10^{-3}$	
to nuclear magneton ratio	μ'_h/μ_N	$-2.127\,497\,718(25)$	
alpha particle mass in u	m_α	4.001 506 1747(10)	u
energy equivalent in MeV	$m_\alpha c^2$	3 727.379 04(15)	MeV
Avogadro constant	N_A, L	$6.022\,141\,99(47) \times 10^{23}$	mol^{-1}
atomic mass constant $\frac{1}{12}m(^{12}C) = 1$ u	m_u	$1.660\,538\,73(13) \times 10^{-27}$	kg
energy equivalent in MeV	$m_u c^2$	931.494 013(37)	MeV
Faraday constant $N_A e$	F	96 485.3415(39)	C mol^{-1}
molar gas constant	R	8.314 472(15)	J mol^{-1} K^{-1}
Boltzmann constant R/N_A	k	$1.380\,6503(24) \times 10^{-23}$	J K^{-1}
in eV K^{-1}		$8.617\,342(15) \times 10^{-5}$	eV K^{-1}
molar volume of ideal gas RT/p ($T = 273.15$ K, $p = 101.325$ kPa)	V_m	$22.413\,996(39) \times 10^{-3}$	m^3 mol^{-1}
Stefan-Boltzmann constant $\pi^2 k^4/60\hbar^3 c^2$	σ	$5.670\,400(40) \times 10^{-8}$	W m^{-2} K^{-4}
first radiation constant $2\pi hc^2$	c_1	$3.741\,771\,07(29) \times 10^{-16}$	W m^2
second radiation constant hc/k	c_2	$1.438\,7752(25) \times 10^{-2}$	m K
Wien displacement law constant $b = \lambda_{max} T = c_2/4.965\,114\,231...$	b	$2.897\,7686(51) \times 10^{-3}$	m K
Cu x unit: $\lambda(\text{Cu K}\alpha_1)/1\,537.400$	xu(Cu Kα_1)	$1.002\,077\,03(28) \times 10^{-13}$	m
Mo x unit: $\lambda(\text{Mo K}\alpha_1)/707.831$	xu(Mo Kα_1)	$1.002\,099\,59(53) \times 10^{-13}$	m

Energy equivalents

$(1\ m^{-1})c = 299\,792\,458$ Hz	$(1\ \text{Hz})h/k = 4.799\,2374(84) \times 10^{-11}$ K	$(1\ \text{J}) = 6.241\,509\,74(24) \times 10^{18}$ eV	$(1\ \text{eV})/c^2 = 1.073\,544\,206(43) \times 10^{-9}$ u
$(1\ m^{-1})hc/k = 1.438\,7752(25) \times 10^{-2}$ K	$(1\ \text{Hz})h = 4.135\,667\,27(16) \times 10^{-15}$ eV	$(1\ \text{eV}) = 1.602\,176\,462(63) \times 10^{-19}$ J	$(1\ \text{kg}) = 6.022\,141\,99(47) \times 10^{26}$ u
$(1\ m^{-1})hc = 1.239\,841\,857(49) \times 10^{-6}$ eV	$(1\ \text{K})k/hc = 69.503\,56(12)$ m^{-1}	$(1\ \text{eV})/hc = 8.065\,544\,77(32) \times 10^5$ m^{-1}	$(1\ \text{u}) = 1.660\,538\,73(13) \times 10^{-27}$ kg
$(1\ m^{-1})h/c = 1.331\,025\,042(10) \times 10^{-15}$ u	$(1\ \text{K})k/h = 2.083\,6644(36) \times 10^{10}$ Hz	$(1\ \text{eV})/h = 2.417\,989\,491(95) \times 10^{14}$ Hz	$(1\ \text{u})c/h = 7.513\,006\,658(57) \times 10^{14}$ m^{-1}
$(1\ \text{Hz})/c = 3.335\,640\,952 \times 10^{-9}$ m^{-1}	$(1\ \text{K})k = 8.617\,342(15) \times 10^{-5}$ eV	$(1\ \text{eV})/k = 1.160\,4506(20) \times 10^4$ K	$(1\ \text{u})c^2 = 931.494\,013(37) \times 10^6$ eV

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NIST SP 961 (Jan/2001) Values from: P. J. Mohr and B. N. Taylor, J. Phys

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The number in parenthesis is the one-standard-deviation

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		$= 12.566\,370\,614... \times 10^{-7}$	N A^{-2}
electric constant $1/\mu_0 c^2$	ϵ_0	$8.854\,187\,817... \times 10^{-12}$	F m^{-1}
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von Klitzing constant $h/e^2 = \mu_0 c/2\alpha$	R_K	25 812.807 572(95)	Ω
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inverse fine-structure constant	α^{-1}	137.035 999 76(50)	
Rydberg constant $\alpha^2 m_e c/2h$	R_∞	10 973 731.568 549(83)	m^{-1}
	$R_\infty c$	$3.289\,841\,960\,368(25) \times 10^{15}$	Hz
energy equivalent in eV	$R_\infty hc$	13.605 691 72(53)	eV
Bohr radius $\alpha/4\pi R_\infty = 4\pi\epsilon_0\hbar^2/m_e e^2$	a_0	$0.529\,177\,2083(19) \times 10^{-10}$	m
Hartree energy $e^2/4\pi\epsilon_0 a_0 = 2R_\infty hc = \alpha^2 m_e c^2$	E_h	$4.359\,743\,81(34) \times 10^{-18}$	J
		27.211 3834(11)	eV

1998 CODATA RECOMMENDED VALUES OF THE FUNDAMENTAL CONSTANTS OF PHYSICS AND CHEMISTRY

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Planck constant	h	$6.626\,068\,76(52) \times 10^{-34}$	J s
in eV s		$4.135\,667\,27(16) \times 10^{-15}$	eV s
$h/2\pi$	$\hbar$	$1.054\,571\,596(82) \times 10^{-34}$	J s
in eV s		$6.582\,118\,89(26) \times 10^{-16}$	eV s
elementary charge	e	$1.602\,176\,462(63) \times 10^{-19}$	C
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Josephson constant $2e/h$	K_J	$483\,597.898(19) \times 10^9$	Hz V^{-1}
von Klitzing constant $h/e^2 = \mu_0 c/2\alpha$	R_K	25 812.807 572(95)	Ω
Bohr magneton $e\hbar/2m_e$	μ_B	$927.400\,899(37) \times 10^{-26}$	J T^{-1}
in eV T^{-1}		$5.788\,381\,749(43) \times 10^{-5}$	eV T^{-1}
nuclear magneton $e\hbar/2m_p$	μ_N	$5.050\,783\,17(20) \times 10^{-27}$	J T^{-1}
in eV T^{-1}		$3.152\,451\,238(24) \times 10^{-8}$	eV T^{-1}
fine-structure constant $e^2/4\pi\epsilon_0\hbar c$	α	$7.297\,352\,533(27) \times 10^{-3}$	
inverse fine-structure constant	α^{-1}	137.035 999 76(50)	
Rydberg constant $\alpha^2 m_e c/2h$	R_∞	10 973 731.568 549(83)	m^{-1}
	$R_\infty c$	$3.289\,841\,960\,368(25) \times 10^{15}$	Hz
energy equivalent in eV	$R_\infty hc$	13.605 691 72(53)	eV
Bohr radius $\alpha/4\pi R_\infty = 4\pi\epsilon_0\hbar^2/m_e e^2$	a_0	$0.529\,177\,2083(19) \times 10^{-10}$	m
Hartree energy $e^2/4\pi\epsilon_0 a_0 = 2R_\infty hc = \alpha^2 m_e c^2$	E_h	$4.359\,743\,81(34) \times 10^{-18}$	J
in eV		27.211 3834(11)	eV
electron mass	m_e	$9.109\,381\,88(72) \times 10^{-31}$	kg
in u		$5.485\,799\,110(12) \times 10^{-4}$	u
energy equivalent in MeV	$m_e c^2$	0.510 998 902(21)	MeV
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electron-proton mass ratio	m_e/m_p	$5.446\,170\,232(12) \times 10^{-4}$	
electron charge to mass quotient	$-e/m_e$	$-1.758\,820\,174(71) \times 10^{11}$	C kg^{-1}
Compton wavelength $h/m_e c$	λ_C	$2.426\,310\,215(18) \times 10^{-12}$	m
$\lambda_C/2\pi = \alpha a_0 = \alpha^2/4\pi R_\infty$	$\lambda\!\!\!^{-}_C$	$386.159\,2642(28) \times 10^{-15}$	m
classical electron radius $\alpha^2 a_0$	r_e	$2.817\,940\,285(31) \times 10^{-15}$	m
Thomson cross section $(8\pi/3)r_e^2$	σ_e	$0.665\,245\,854(15) \times 10^{-28}$	m^2
electron magnetic moment	μ_e	$-928.476\,362(37) \times 10^{-26}$	J T^{-1}
to Bohr magneton ratio	μ_e/μ_B	$-1.001\,159\,652\,1869(41)$	
to nuclear magneton ratio	μ_e/μ_N	−1 838.281 9660(39)	
electron magnetic moment anomaly $\lvert\mu_e\rvert/\mu_B - 1$	a_e	$1.159\,652\,1869(41) \times 10^{-3}$	
electron g-factor $-2(1 + a_e)$	g_e	−2.002 319 304 3737(82)	
electron-proton magnetic moment ratio	μ_e/μ_p	−658.210 6875(66)	
muon mass in u	m_μ	0.113 428 9168(34)	u
energy equivalent in MeV	$m_\mu c^2$	105.658 3568(52)	MeV
muon-electron mass ratio	m_μ/m_e	206.768 2657(63)	
muon magnetic moment	μ_μ	$-4.490\,448\,13(22) \times 10^{-26}$	J T^{-1}
to Bohr magneton ratio	μ_μ/μ_B	$-4.841\,970\,85(15) \times 10^{-3}$	
to nuclear magneton ratio	μ_μ/μ_N	−8.890 597 70(27)	
muon magnetic moment anomaly $\lvert\mu_\mu\rvert/(e\hbar/2m_\mu) - 1$	a_μ	$1.165\,916\,02(64) \times 10^{-3}$	

Quantity	Symbol	Numerical value	Unit
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muon-proton magnetic moment ratio	μ_μ/μ_p	−3.183 345 39(10)	
proton mass	m_p	$1.672\,621\,58(13) \times 10^{-27}$	kg
in u		1.007 276 466 88(13)	u
energy equivalent in MeV	$m_p c^2$	938.271 998(38)	MeV
proton-electron mass ratio	m_p/m_e	1 836.152 6675(39)	
proton magnetic moment	μ_p	$1.410\,606\,633(58) \times 10^{-26}$	J T^{-1}
to nuclear magneton ratio	μ_p/μ_N	2.792 847 337(29)	
proton magnetic shielding correction $1 - \mu'_p/\mu_p$ (H_2O, sphere, 25 °C)	σ'_p	$25.687(15) \times 10^{-6}$	
proton gyromagnetic ratio $2\mu_p/\hbar$	γ_p	$2.675\,222\,12(11) \times 10^8$	s^{-1} T^{-1}
	$\gamma_p/2\pi$	42.577 4825(18)	MHz T^{-1}
shielded proton gyromagnetic ratio $2\mu'_p/\hbar$ (H_2O, sphere, 25 °C)	γ'_p	$2.675\,153\,41(11) \times 10^8$	s^{-1} T^{-1}
	$\gamma'_p/2\pi$	42.576 3888(18)	MHz T^{-1}
neutron mass in u	m_n	1.008 664 915 78(55)	u
energy equivalent in MeV	$m_n c^2$	939.565 330(38)	MeV
neutron-proton mass ratio	m_n/m_p	1.001 378 418 87(58)	
neutron magnetic moment	μ_n	$-0.966\,236\,40(23) \times 10^{-26}$	J T^{-1}
to nuclear magneton ratio	μ_n/μ_N	−1.913 042 72(45)	
deuteron mass in u	m_d	2.013 553 212 71(35)	u
energy equivalent in MeV	$m_d c^2$	1 875.612 762(75)	MeV
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deuteron magnetic moment	μ_d	$0.433\,073\,457(18) \times 10^{-26}$	J T^{-1}
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to nuclear magneton ratio	μ'_h/μ_N	−2.127 497 718(25)	
alpha particle mass in u	m_α	4.001 506 1747(10)	u
energy equivalent in MeV	$m_\alpha c^2$	3 727.379 04(15)	MeV
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second radiation constant hc/k	c_2	$1.438\,7752(25) \times 10^{-2}$	m K
Wien displacement law constant $b = \lambda_{max}T = c_2/4.965\,114\,231...$	b	$2.897\,7686(51) \times 10^{-3}$	m K
Cu x unit: $\lambda(\mathrm{Cu\,K}\alpha_1)/1\,537.400$	$\mathrm{xu(Cu\,K}\alpha_1)$	$1.002\,077\,03(28) \times 10^{-13}$	m
Mo x unit: $\lambda(\mathrm{Mo\,K}\alpha_1)/707.831$	$\mathrm{xu(Mo\,K}\alpha_1)$	$1.002\,099\,59(53) \times 10^{-13}$	m

Energy equivalents

$(1\ m^{-1})c = 299\,792\,458$ Hz	$(1\ \mathrm{Hz})h/k = 4.799\,2374(84) \times 10^{-11}$ K	$(1\ \mathrm{J}) = 6.241\,509\,74(24) \times 10^{18}$ eV	$(1\ \mathrm{eV})/c^2 = 1.073\,544\,206(43) \times 10^{-9}$ u
$(1\ m^{-1})hc/k = 1.438\,7752(25) \times 10^{-2}$ K	$(1\ \mathrm{Hz})h = 4.135\,667\,27(16) \times 10^{-15}$ eV	$(1\ \mathrm{eV}) = 1.602\,176\,462(63) \times 10^{-19}$ J	$(1\ \mathrm{kg}) = 6.022\,141\,99(47) \times 10^{26}$ u
$(1\ m^{-1})hc = 1.239\,841\,857(49) \times 10^{-6}$ eV	$(1\ \mathrm{K})k/hc = 69.503\,56(12)\ m^{-1}$	$(1\ \mathrm{eV})/hc = 8.065\,544\,77(32) \times 10^5\ m^{-1}$	$(1\ \mathrm{u}) = 1.660\,538\,73(13) \times 10^{-27}$ kg
$(1\ m^{-1})h/c = 1.331\,025\,042(10) \times 10^{-15}$ u	$(1\ \mathrm{K})k/h = 2.083\,6644(36) \times 10^{10}$ Hz	$(1\ \mathrm{eV})/h = 2.417\,989\,491(95) \times 10^{14}$ Hz	$(1\ \mathrm{u})c/\hbar = 7.513\,006\,658(57) \times 10^{14}\ m^{-1}$
$(1\ \mathrm{Hz})/c = 3.335\,640\,952 \times 10^{-9}\ m^{-1}$	$(1\ \mathrm{K})k = 8.617\,342(15) \times 10^{-5}$ eV	$(1\ \mathrm{eV})/k = 1.160\,4506(20) \times 10^4$ K	$(1\ \mathrm{u})c^2 = 931.494\,013(37) \times 10^6$ eV

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in u		$5.485\,799\,110(12) \times 10^{-4}$	u
energy equivalent in MeV	$m_e c^2$	0.510 998 902(21)	MeV
electron-muon mass ratio	m_e/m_μ	$4.836\,332\,10(15) \times 10^{-3}$	
electron-proton mass ratio	m_e/m_p	$5.446\,170\,232(12) \times 10^{-4}$	
electron charge to mass quotient	$-e/m_e$	$-1.758\,820\,174(71) \times 10^{11}$	C kg^{-1}
Compton wavelength $h/m_e c$	λ_C	$2.426\,310\,215(18) \times 10^{-12}$	m
$\lambda_C/2\pi = \alpha a_0 = \alpha^2/4\pi R_\infty$	$\lambda\!\!\!^{-}_C$	$386.159\,2642(28) \times 10^{-15}$	m
classical electron radius $\alpha^2 a_0$	r_e	$2.817\,940\,285(31) \times 10^{-15}$	m
Thomson cross section $(8\pi/3)r_e^2$	σ_e	$0.665\,245\,854(15) \times 10^{-28}$	m^2
electron magnetic moment	μ_e	$-928.476\,362(37) \times 10^{-26}$	J T^{-1}
to Bohr magneton ratio	μ_e/μ_B	$-1.001\,159\,652\,1869(41)$	
to nuclear magneton ratio	μ_e/μ_N	$-1\,838.281\,9660(39)$	
electron magnetic moment anomaly $\lvert\mu_e\rvert/\mu_B - 1$	a_e	$1.159\,652\,1869(41) \times 10^{-3}$	
electron g-factor $-2(1 + a_e)$	g_e	$-2.002\,319\,304\,3737(82)$	
electron-proton magnetic moment ratio	μ_e/μ_p	$-658.210\,6875(66)$	
muon mass in u	m_μ	0.113 428 9168(34)	u
energy equivalent in MeV	$m_\mu c^2$	105.658 3568(52)	MeV
muon-electron mass ratio	m_μ/m_e	206.768 2657(63)	
muon magnetic moment	μ_μ	$-4.490\,448\,13(22) \times 10^{-26}$	J T^{-1}
to Bohr magneton ratio	μ_μ/μ_B	$-4.841\,970\,85(15) \times 10^{-3}$	
to nuclear magneton ratio	μ_μ/μ_N	$-8.890\,597\,70(27)$	
muon magnetic moment anomaly $\lvert\mu_\mu\rvert/(e\hbar/2m_\mu) - 1$	a_μ	$1.165\,916\,02(64) \times 10^{-3}$	

Energy eq

$(1\ \text{m}^{-1})c$	$= 299\,792\,458$ Hz	$(1\ \text{Hz})h/k$	$= 4.799\,2374(84) \times 10^{-11}$ K
$(1\ \text{m}^{-1})hc/k$	$= 1.438\,7752(25) \times 10^{-2}$ K	$(1\ \text{Hz})h$	$= 4.135\,667\,27(16) \times 10^{-15}$ eV
$(1\ \text{m}^{-1})hc$	$= 1.239\,841\,857(49) \times 10^{-6}$ eV	$(1\ \text{K})k/hc$	$= 69.503\,56(12)$ m^{-1}
$(1\ \text{m}^{-1})h/c$	$= 1.331\,025\,042(10) \times 10^{-15}$ u	$(1\ \text{K})k/h$	$= 2.083\,6644(36) \times 10^{10}$ Hz
$(1\ \text{Hz})/c$	$= 3.335\,640\,952 \times 10^{-9}$ m^{-1}	$(1\ \text{K})k$	$= 8.617\,342(15) \times 10^{-5}$ eV

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