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# NATIONAL BUREAU OF STANDARDS REPORT

NBS PROJECT

NBS REPORT

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August 1, 1962

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Twelfth Progress

Report

on the

Mechanisms of Fire Ignition and Extinguishment

by  
E. C. Creitz

Covering the period 1 May to 30 July 1962

for

Bureau of Ships

Department of the Navy

Code 638

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U. S. DEPARTMENT OF COMMERCE  
NATIONAL BUREAU OF STANDARDS



## Twelfth Progress Report

### Mechanisms of Fire Ignition and Extinguishment

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E. C. Creitz

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#### 1. Summary

The rejection of unwanted harmonics of masses has been accomplished, in the development of the new mass spectrometer. A report describing the instrument, its operation and results has been written.

#### 2. The Mass Spectrometer

Studies were continued on a means for elimination of unwanted harmonics--ions which take more than one voltage cycle to traverse the drift tube. The operation of the harmonic eliminator depended on the construction of a pair of radio frequency voltage generators connected in such a way as to maintain the ratio of their frequencies constant while permitting variation of their base frequencies. This was accomplished and reasonable, but not perfect, rejection of unwanted harmonics was accomplished.

A description of the instrument and its preliminary tests has been written up in report form and has also been submitted for editorial review for publication in Reviews of Scientific Instruments. Copies of the report are enclosed.

