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QUARTERLY STATUS REPORT NO. 1

EFFECT OF NUCLEAR RADIATION ON COMBUSTION

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Techniques for the simultaneous determination of flame-propagation velocities in flame-emission spectras at different locations within a flat flame under the influence of nuclear radiation are being evaluated so that a simple experimental system may be devised.

Tentative evaluation of possible radioactive materials for use as a beta source indicate that gold-198 would probably be the most satisfactory with the possibility that palladium-109 could be used for experiments in which the flame is not in contact with the source. (Palladium-109 may act as a contact catalyst for flames containing hydrogen or hydrogen compounds).

Arrangements for the transportation of radioactive sources are being made with the 10th Air Force headquarters.

Personnel

The following have participated in the work to date:

- Dr. Richard B. Morrison, Assistant Professor of Aeronautical Engineering
- Dr. Alexander Weir, Jr., Associate Research Engineer
- Mr. Martin E. Gluckstein, Research Associate
- Mr. Leroy Ornella, Assistant in Research

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