

Satellite Environment Handbook

Edited by **Francis S. Johnson**

LOCKHEED AIRCRAFT CORPORATION
MISSILES AND SPACE DIVISION
PALO ALTO, CALIFORNIA

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Preface

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Structure of the
Upper Atmosphere

Structure of
the Ionosphere

Penetrating
Radiation

Solar
Radiation

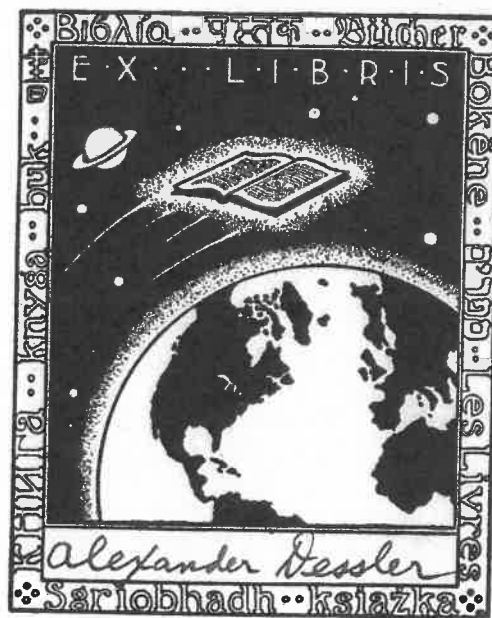
Micrometeorites

Radio Noise

Thermal Radiation
from the Earth

Geomagnetism

Appendix





SATELLITE ENVIRONMENT HANDBOOK

Edited by Francis S. Johnson

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The available data describing the geophysical environment encountered by artificial earth satellites are here summarized in a succinct yet comprehensive survey. It is designed as a convenient reference for persons working on research and engineering programs in space-systems development, geophysics, meteorology, communications, and related fields.

Data are presented on the structure of the upper atmosphere and the ionosphere, penetrating-particle radiation, solar radiation, micrometeorites, radio noise, thermal radiation from the Earth, and geomagnetism. A complete description is provided, even when observational data are lacking, if there is a theoretical basis for making an estimate from what information is available.

Although most of the data have been compiled from the scientific literature, and many references are cited, some of the information here is not available elsewhere. Certain controversial points are explored in some detail, and the need for additional data in specific categories is indicated. It is felt that the data presented in this volume should be acceptable as the most realistic information that can now be assembled.

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