

## Biographical Sketch

**WILLIAM H. SMYTH, PH.D.**

AER: PRINCIPAL SCIENTIST

### EDUCATION:

- Ph.D. Applied Physics, Harvard University, 1972.
- M.S. Applied Physics, Harvard University, 1964.
- B.S. Physics, with high honors, North Carolina State University, 1963.

### EXPERIENCE:

**Atmospheric and Environmental Research, Inc. 1977 – present**

Planetary Atmospheres Program

*Principal Scientist*

Dr. Smyth is leading the Planetary Sciences Research at AER and has been a principal investigator for a number of projects involving Mercury, Venus, Moon, Mars, Jupiter, Io, Saturn, Titan and Triton as well as comets. His research interests are in the theoretical modeling of a range of physical problems in the solar system involving gases and plasma, and their complex interactions in atmospheres, magnetospheres, and the solar wind. These interests include the local and extended atmospheres of planets, satellites, and comets, with particular emphasis on the explanation of observational data. For over twenty-five years, he has pioneered research in the subject of the escaping circumplanetary toroidal atmospheres of satellites, with Io and more recently Europa and their impact as internal plasma sources for Jupiter's magnetosphere being a central topic. His projects have included studies for the structure and composition of Jupiter's inner magnetosphere and for the structure, composition, and dynamics of the atmospheres of Mercury, Moon, Io, Europa, and comets, where the solutions of the hydrodynamic regime as well as kinetic theory regimes that are both collisionally linear and nonlinear are important.

**Harvard University 1973 - 1978**

Center for Earth and Planetary Physics

*Research Fellow*

Prior to joining AER, Dr. Smyth was actively involved in research projects that explored extended neutral atmospheres of satellites of the outer planets.

**Harvard University 1972**

Division of Engineering and Applied Physics

*Post Doctoral Appointment*

Upon completion of his Ph.D. thesis at Harvard University, Dr. Smyth performed additional research in the subject of kinetic theory of gaseous systems interacting with radiation. His Ph.D. degree in Applied Physics was for a subject major in kinetic theory and for subject minors in plasma physics and mathematics.