

BILL ROY SANDEL

Lunar and Planetary Laboratory
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RESEARCH INTERESTS

Bill R. Sandel has four decades of experience with spacecraft instrumentation and observations, mainly in UV spectroscopy and UV imaging of atmospheres and plasmas. He was a co-investigator on the Voyager UVS and Galileo UVS/EUV investigations. He has been extensively involved in the interpretation of the EUV signature of Io's plasma torus and auroras on the outer planets. His expertise also includes analysis and interpretation of solar and stellar occultation observations. He has pursued such studies for the atmospheres of Jupiter, Saturn, Uranus, Neptune, Ganymede, Titan, Triton, and Mars. He led the Extreme Ultraviolet Imager (EUV) investigation, a part of NASA's IMAGE Mission. Using observations by EUV, he studies the distribution and dynamics of He⁺ in Earth's plasmasphere by imaging at 30.4 nm. Sandel is a co-investigator on two Mars Express and two Venus Express investigations. He presently pursues studies of molecular oxygen in the atmosphere of Mars using observations of stellar occultations by SPICAM on Mars Express, and studies of hydrocarbons in the atmosphere of Titan using observations of stellar occultations by Cassini/UVIS. Sandel holds NASA's Medal for Exceptional Scientific Achievement and he is a Fellow of the American Geophysical Union. He is the author of more than 220 publications in the refereed literature.

EDUCATION

Ph.D.	1972	Space Science	Rice University, Houston, Texas
M.S.	1971	Space Science	Rice University, Houston, Texas
B.A.	1968	Physics	Rice University, Houston, Texas

PROFESSIONAL POSITIONS

4/3/2012 to Present	Senior Research Scientist (Retired) Lunar and Planetary Laboratory, The University of Arizona Tucson, Arizona 85721
7/1/91 to 4/2/2012	Senior Research Scientist Lunar and Planetary Laboratory, The University of Arizona Tucson, Arizona 85721
10/1/83 to 6/30/91	Associate Research Scientist Lunar and Planetary Laboratory, The University of Arizona Tucson, Arizona 85721
5/1/79 to 9/30/83	Research Scientist Earth and Space Sciences Institute, USC Los Angeles, California 90007
4/1978 - 4/1979	Research Associate Lunar and Planetary Laboratory, University of Arizona Tucson, Arizona 85721

1973 - 3/1978 Senior Research Associate
 Kitt Peak National Observatory
 Tucson, Arizona 85726

SCIENTIFIC EXPERIENCE

- 2003 - Co-Investigator for the ESA Venus Express investigation Spectroscopie Pour l'Investigation des Caracteristiques de l'Atmosphere de Venus (SPICAV).
- 2003 - Co-Investigator for the ESA Venus Express investigation Analyzer of Space Plasma and Energetic Atoms (ASPERA).
- 1998 - Co-Investigator for the ESA Mars Express investigation Spectroscopie Pour l'Investigation des Caracteristiques de l'Atmosphere de Mars (SPICAM).
- 1998 - Co-Investigator for the ESA Mars Express investigation Analyzer of Space Plasma and Energetic Atoms (ASPERA 3).
- 1997- 2002 Member, Deep Space 1 Science Team, NASA New Millennium Program.
- 1996 - Principal Investigator, Extreme Ultraviolet Imager for the IMAGE Mission, an element of NASA's Medium-Class Explorer Program (MIDEX).
- 1996-1997 Principal Investigator for development of the UV channel for the Miniature Integrated Camera-Spectrometer for the Deep Space 1 Mission.
- 1992-1996 Co-Investigator, Atmospheric Lyman Alpha Experiment, ATLAS-1 mission.
- 1989-1996 Co-Investigator, SPICAM investigation on the Soviet Mars-96 mission.
- 1989-1998 Co-Investigator, Galileo Ultraviolet Spectrometer Experiment
- 1983-1986 Co-Principal Investigator, 'Airglow Spectrograph Development Program', observations of O and N₂ emissions from the night sky, detector and spectrograph development.
- 1981-1985 Principal Investigator, Viking UV Imager Detectors, a CsI coated concave micro channel plate intensifier with phosphor/fiber optic coupling to a CCD. The fiber optics also provides a compensating distortion for the TDI camera system on a rolling spacecraft.
- 1978 - Co-investigator, Voyager Ultraviolet Spectrometer Experiment. Interpretation of observations of the bound and extended atmospheres of Jupiter, Saturn, Uranus, Neptune, and their satellites.
- 1973-1977 Definition and implementation of Voyager UVS Experiment, with particular attention to detector development. Analysis and interpretation of Mariner 10 UVS Experiment data.
- 1968-1972 Graduate Student, Rice University. Studies of ionospheric electric current systems at both mid-latitudes (Sq currents) and auroral latitudes using rocket-borne vector magnetometers. Design and development of rocket attitude sensing systems.

AWARDS & HONORS

- 1981 NASA Exceptional Scientific Achievement Medal
1981-2012 More than a dozen NASA and ESA Achievement Awards for Voyager, Galileo, and Deep Space 1, Mars Express, Venus Express, and other missions.
2007 Elected Fellow, American Geophysical Union

MEMBERSHIPS

American Geophysical Union
Division for Planetary Sciences, American Astronomical Society