



Ultraviolet Spectrograph Concepts for the Europa Jupiter System Missions

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SwRI's Alice line of ultraviolet spectrographs (UVS) is founded on a lightweight, low power, and highly capable and versatile instrument design. With generally small changes in detector photocathode, detector pixel size, slit size and shape, optical coatings, pinhole aperture implementations, and other tweaks we've found a wide variety of applications for the Alice design, to date, at comets, Pluto, the Moon, and Jupiter. The SwRI UVS heritage includes very broad experience and strong performance to date on the Rosetta (successful Earth, Mars and asteroid flybys), New Horizons (successful Jupiter flyby), Lunar Reconnaissance Orbiter (in lunar orbit since June 2009), and Juno (planned launch to Jupiter in August 2011) missions. The spectrograph's high capability, and our experience with Juno-based radiation environment and New Horizons-based outer solar system environment requirements make this UVS a good choice for the Europa and Ganymede orbiter missions to the Jupiter system. We present several observations obtained with these instruments and other example UV observations of the Jovian system to discuss the objectives for UV observations by the Europa Jupiter System Mission(s).