Title:

The Performance of the EUV Spectroscope (EXCEED) Onboard the SPRINT-A Mission

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Abstract

The extreme ultraviolet spectroscope EXCEED will be launched in the summer of 2013 by the new Japanese solid propulsion rocket Epsilon and it will orbit around the Earth with an orbital altitude of around 1000 km. EXCEED is dedicated to and optimized for observing the terrestrial planets Mercury, Venus and Mars, as well as Jupiter for several years. The instrument consists of an off axis parabolic entrance mirror, switchable slits with multiple filters and shapes, a toroidal grating, and a photon counting detector, together with a field of view guiding camera.

The design goal is to achieve a large effective area but with high spatial and spectral resolution. In this paper, the performance of each optical component will be described as determined from the results of test evaluation of flight models. In addition, the results of the optical calibration of the overall instrument are also shown.