THE PLANETENTELESKOP MISSION

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Abstract. The scientific focus of the Planetenteleskop project will be on time-variable solar system phenomena (planet-magnetosphere-satellite interactions, active processes of cometary nuclei, atmospheric circulation and dynamics), on time-invariant solar system phenomena (geochemical provinces on planetary and satellite surfaces, global characteristics of primitive bodies), on planetary environments of other stars, and on general astronomical and astrophysical applications. The proposed Planetenteleskop in elliptical 24 h earth orbit will combine near-simultaneous, high-resolution spectroscopic observations, diffraction-limited imaging quality, long integration times (< 10 h) and excellent target tracking accuracy (nominally 0.05 arc sec/10 h, up to 0.02 arc sec). The excellent tracking accuracy and stability on extended objects and features is provided by a novel real-time on-board image correlation scheme. The Planetenteleskop has been studied in prephase A and phase A by industry and the involved science community in Germany in cooperation with American colleagues.

Y. Kondo (ed.), Observatories in Earth Orbit and Beyond, 286.