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Status of the Galileo Solar Space Telescope Mission

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Here we present the concept feasibility study of the Galileo Solar Space Telescope Mission (GSST Mission) proposed by the Brazilian National Institute for Space Research (INPE). The study was conducted at the Space Missions Integrated Design Center (CPRIME - Centro de Projeto Integrado de Missões Espaciais). The GSST shall contribute to the understanding of the evolution of the magnetic structure of the Sun and its influence on the Earth's space environment. The requirements proposed for the mission include high spatial and temporal resolution observations. Those measurements involve observations of the photosphere and outer layers of the solar atmosphere, observations of the variability of TSI, and in situ observations. The study included: (a) the definition of the scientific objectives; (b) the identification of the system drivers; (c) the definition of the candidate solutions for the system; (d) the conceptual design of the mission's architecture components, including the optical payloads; (e) the pointing accuracy analysis of the designed attitude control subsystem; (f) the simulation and verification of the mission operational concept; (g) the assessment of the ground segment required to fulfill the mission; (h) estimate of the schedule for the development of the mission; and (i) the risk analysis. The optical payload architecture, orbit, and ground segment were identified as the main system drivers. The concept of two full disk telescopes and one high-resolution telescope for visible and ultraviolet spectropolarimetric observations have been the basis for the solution of the optical payload architecture selected for scientific purposes. INPE's GSST Mission Working Group.

Student poster?

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