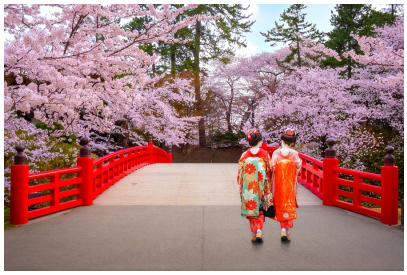

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The LiteBIRD space mission

jeudi 30 mars 2023 11:25 (25 minutes)

LiteBIRD, the Lite (Light) satellite for the study of B-mode polarization and Inflation from cosmic background Radiation Detection, is a space mission for the exploration of primordial cosmology. The Japan Aerospace Exploration Agency (JAXA) selected LiteBIRD in 2019 as a strategic Large-class mission expected to be launched at the end of the decade. LiteBIRD will orbit the Lagrangian point L2 of the Sun-Earth system, observing the CMB polarization across the entire sky for three years. The primary scientific goal of LiteBIRD is to measure the tensor-to-scalar ratio with a precision of 0.001, allowing to probe the physics of the very early Universe to find relics of primordial gravitational waves produced during the hypothetical inflationary phase of the Universe. LiteBIRD will observe in 15 frequency bands from 34 to 448 GHz distributed over three telescopes, achieving an unprecedented total sensitivity of 2.2 μK-arcmin, with an angular resolution of 0.5° at 100 GHz. In this presentation, I will give an overview of the project, giving details about the status of the mission, its scientific goals, current instrument design and requirements.

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