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CASTOR: A Flagship Space Astronomy Mission for Canada

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The Cosmological Advanced Survey Telescope for Optical and uv Research (CASTOR) is a proposed Canadian Space Agency (CSA) mission that would image the skies at ultraviolet (UV) and blue-optical wavelengths simultaneously. Operating close to its diffraction limit, the 1-m-diameter CASTOR telescope is designed with a spatial resolution similar to the Hubble Space Telescope (HST), but with a field of view about one hundred times larger. The exciting science enabled by the CASTOR suite of instruments and the planned legacy surveys encompasses small bodies in the Solar System, exoplanet atmospheres, cosmic explosions, supermassive black holes, galaxy evolution, and cosmology. In addition, this survey mapping capability would add UV coverage to wide-field surveys planned for the Euclid and Roman telescopes and enhance the science return on these missions. With a CSA-funded phase 0 study already complete, the CASTOR science case and engineering design is on track for a launch in 2030 pending continued funding.

Keyword-1

instrumentation

Keyword-2

astronomy

Keyword-3

space

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