

Abstract Submitted
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Space Based Dark Energy Surveys OLIVIER DORE, JPL/Caltech
— Dark energy, the name given to the cause of the accelerating expansion of the Universe, is one of the most tantalizing mystery in modern physics. Current cosmological models hold that dark energy is currently the dominant component of the Universe, but the exact nature of DE remains poorly understood. There are ambitious ground-based surveys underway that seek to understand DE and NASA is participating in the development of significantly more ambitious space-based surveys planned for the next decade. NASA has provided mission enabling technology to the European Space Agency's (ESA) Euclid mission in exchange for US scientists to participate in the Euclid mission. NASA is also developing the Wide Field Infrared Survey Telescope-Astrophysics Focused Telescope Asset (WFIRST) mission for possible launch in 2024. WFIRST was the highest ranked space mission in the Astro2010 Decadal Survey and the current design uses a 2.4m space telescope to go beyond what was then envisioned. Understanding DE is one of the primary science goals of WFIRST-AFTA. This talk will review the state of DE, the relevant activities of the Cosmic Structure Interest Group (CoSSIG) of the PhyPAG, and detail the status and complementarity between Euclid, WFIRST and other ambitious ground-based efforts.

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