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Argus Array

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Data products, public access, and survey optimization for the Argus Array

The Argus Array will be a 900-telescope optical survey instrument with a combined collecting area equivalent to a 5-meter telescope and an 8000 sq. deg simultaneous field of view, currently slated for first light in 2027. Operating at depths comparable to those of the deepest active sky surveys, Argus will capture a continuous 55,000-megapixel movie of the night sky at hierarchical cadences from 1 second (m^{-16}) to 5 days ($m^{-23.6}$). Argus data will be made public in real time through public transient alerts, images, and long-term, multi-band light curves containing millions of epochs for millions of stars. However, this new class of instrument comes along with a unique set of challenges and constraints for survey optimization. Argus will collect an exabyte-scale dataset over a 10-year survey, requiring both an input catalog of pre-selected science targets to be stored from the base 1- and 30-second cadence data and real-time analysis for inclusion of transients and uncatalogued variables. Survey scheduling is greatly simplified by the all-sky field of view, but optimization of the multi-band coverage pattern based on anticipated science-case impact is currently ongoing. In this presentation, I will describe the science goals, baseline survey strategy, and the planned data products under development for public distribution.

Orateur: CORBETT, Hank

Classification de Session: Wavelengths and messengers