

Title: All-Sky Optical SETI

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Abstract: The Harvard/Smithsonian/Planetary Society all-sky optical SETI observatory is a 1.8 meter spherical $f/2.5$ optical telescope, soon to survey the Northern sky (-20 deg $<$ declination $<$ $+60$ deg) for pulsed optical beacons. Its meridian transit survey mode requires ~ 150 clear nights to cover the Northern sky with ~ 1 minute dwell time per source point. It images a 1.6 by 0.2 degree patch of the sky on two matched focal planes with a total of 1024 photomultiplier tube pixels. Each pair of pixels images the same 2.3 square arcminute patch of sky, and fast electronics filters the incoming visual band light for nanosecond pulses. Coincident optical flashes in a pair of pixels triggers one of 32 PulseNet full-custom chips to record the pulse profiles at nanosecond resolution. This experiment is an all-sky, kilopixel evolution of our targeted search. Focus in this talk will be given to recent progress in the construction of this experiment – the PulseNet full-custom chips, associated electronics, and photodetectors.