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GLUV - A HIGH-ALTITUDE UV SURVEY

Abstract

Ultra-violet (UV) astronomy has long been neglected due to the UV opacity of the ozone layer, and the cost involved to be a telescope system that works. Typically UV telescopes are space-based, with large complexities and costs, however, a balloon-based UV survey telescope, GLUV, offers a much cheaper and simpler alternative. Each GLUV is expected to feature a primary mirror of 20-30cm, observe at near-UV wavelengths (250-300nm), and observe up to 250 square degrees with a daily cadence for 6 month campaigns. The long term goal will be a constellation of 50 GLUVs at one time. The unique wavelength range and cadence makes GLUV ideal for a variety of science cases, primarily transient explosions and exoplanet transits. Specifically, I will show how GLUV will be able to detect supernova shock interactions, measure of exoplanet atmospheres through transits, and detect gravitational wave counterparts.