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QUVIK: QUICK ULTRA-VIOLET KILONOVA SURVEYOR

Abstract

I will present the status and summarise the science case of the Quick Ultra-Violet Kilonova surveyor—QUVIK mission. QUVIK is an ultra-violet (UV) space telescope on an approximately 130 kg small satellite with a moderately fast re-pointing capability and a real-time alert communication system, approved for a Czech national space mission. The satellite, which is expected to launch in five years, will provide key follow-up capabilities to increase the discovery potential of gravitational wave observatories and future wide-field multi-wavelength surveys. The primary objective of the mission is the measurement of the UV brightness evolution of kilonovae, resulting from mergers of neutron stars, to distinguish between different explosion scenarios. The mission, which is designed to be complementary to the Ultraviolet Transient Astronomy Satellite—ULTRASAT, will also provide unique follow-up capabilities for other transients both in the near- and far-UV bands. Between the observations of transient sources, the satellite will perform observations of other targets of interest for the scientific community, such as stars, stellar systems, and galactic nuclei.