

GENERATING A LARGE NUMBER OF SIMULATIONS FOR AGN SPECTRA AND LIGHT-CURVES USING THE POSKI MODEL

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In this work we have used the PoSKI model for supermassive binary black holes (SMBBHs) to simulate spectra and light-curves for a large number of different AGN scenarios. We create a list of different combinations of basic input parameters, like masses and mutual distance between components, eccentricity, inclination angle, and flux contribution ratios of SMBBH. Additionally we introduce in the spectra the red noise to model the intrinsic stochastic variability, and white noise to account for the instrument noise and simulate realistic observations. Particular simulations are conducted with homogeneous cadences (100 points) for two full orbits of the binary system and 200 points in the wavelength range from 1000 to 10000 Å. We create photometric light curves in six LSST filter bands: u, g, r, i, z, y. As a result, we generated spectra for each orbital phase to present the spectrum and light-curve variability across different input parameter sets. By using this simulations, we are able to investigate influences and dependencies of basic parameters on expected variability of SMBBH systems in a given parameter space.