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Nuclear transients and tidal disruption events uncovered by eROSITA

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The SRG/eROSITA all-sky survey offers a unique insight into the transient X-ray sky. Using data obtained during the first two all-sky surveys, we have compiled the largest systematically-selected sample of X-ray transients associated with the nuclei of galaxies without prior signs of AGN activity to date. Benefiting from the unprecedented sensitivity of eROSITA, we have characterised the diversity of the population of nuclear transients. In this talk, I will present the selection of this sample, review its key properties (e.g., X-ray luminosity function, light curve properties, spectra and spectral evolution, optical properties, rates), and discuss how stellar Tidal Disruption Event (TDEs) candidates are identified against a background of non-TDE induced transients. This subsample of eROSITA-selected TDE candidates provides insights into otherwise quiescent massive black holes, letting us explore the formation of accretion disks, and probe different regimes of accretion, as well as the production of outflows.

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