

Contribution ID: 83

Type: **Talk**

Spectral modeling of flares following tidal disruptions of stars by supermassive black holes

Thursday, 9 June 2022 16:10 (30 minutes)

A wealth of spectral data now exists for the flares that follow the tidal disruptions of stars by supermassive black holes, over a wide range of wavelengths. The information encoded in these spectra will be essential to uncovering the dynamical process by which the disruption unfolds and the radiation is generated, which remains intensely debated. However, the theoretical interpretation of these spectra poses substantial theoretical challenges. I will review the available data and the unusual features that arise in these spectra. Then I will review the techniques for theoretical modeling of these spectra, which iteratively combine radiative transfer calculations with non-LTE atomic transition rate equations. These calculations have had some success in addressing coarse-grained features of the data, but I will emphasize the pressing need for new and more detailed models.

Presenter: ROTH, Nathaniel (Lawrence Livermore National Laboratory, USA)

Session Classification: Tidal Disruption Events

Track Classification: Tidal Disruption Events