Contribution ID: **320** Type: **Oral Presentation**

Monte-Carlo Applications for Partially Polarized Inverse External-Compton Scattering (MAPPIES)

Tuesday, 27 July 2021 11:45 (15 minutes)

The spectral energy distributions (SEDs) of some blazars exhibit an ultraviolet (UV) and/or soft Xray excess, which can be modelled with different radiation mechanisms. Polarization measurements of the UV/X-ray emission from blazars may provide new and unique information about the astrophysical environment of blazar jets and could thus help to distinguish between different emission scenarios. I will present a new Monte-Carlo code – MAPPIES (Monte-Carlo Applications for Partially Polarized Inverse External-Compton Scattering) – for polarization-dependent Compton scattering. I will present the code by showing results of the polarization signatures in a model where the UV/soft X-ray excess arises from the bulk Compton process. Predictions of the expected polarization signatures of Compton emission from the soft X-ray excess in the SED of AO 0235+164, and the UV excess in the SED of 3C 279 are made for upcoming and proposed polarimetry missions.

Apply to be considered for a student ; award (Yes / No)?

Yes

Level for award;(Hons, MSc, PhD, N/A)?

PhD

Primary authors: DREYER, Lente (North-West University); BOTTCHER, Markus (University of North West)

Presenter: DREYER, Lente (North-West University)

Session Classification: Astrophysics

Track Classification: Track D1 - Astrophysics