Contribution ID: **125** Type: **Contributed talk**

High energy emissions heralding binary black hole inspiral

Useful to LIGO detections would be an electromagnetic signal which heralds the start of a binary black hole inspiral. Primarily, this would also aid in multi-messenger follow-up studies. We look to the potential presence of an accretion disk as a source of emissions. We consider this problem by computing geodesics numerically from an approximate, analytic metric to determine the amount of energy released by each particle due to inverse Compton scattering and the eventual accretion onto the binary. Once we find the total emission flux from the accretion process and inverse Compton scattering, we can determine how bright the emitted electromagnetic signal will be. Then we can characterize the signal and determine its temporal relation to LIGO binary black hole inspirals.

Abstract field

Author: TARRANT, Justine (WITS)

Co-author: BECK, Geoff (University of the Witwatersrand)

Presenter: TARRANT, Justine (WITS)

Session Classification: Multi-Messenger & Astro-Particle

Track Classification: Multi-Messenger and Astro-particle