ID de Contribution: **60** Type: **Non spécifié**

Teieresias Radiative Transfer: Consistently modelling the Kilonova Afterglow with Relativistic Hydrodynamics.

mardi 15 novembre 2022 11:30 (30 minutes)

The kilonova afterglow is the final phase of the electromagnetic counterpart to a BNS/NSBH merger, and it is the only predicted counterpart of GW170817, which has not been observed yet. The kilonova afterglow lightcurve is dependent on the mass, velocity and angular distributions of the ejecta, and thus represents an opportunity to independently constrain these properties. We present Teiresias Radiative Transfer: a complete relativistic, hydrodynamic, kilonova afterglow model for synchrotron radiation. This open source radiative transfer code predicts afterglow lightcurves for arbitrary ejecta profiles using 1-D relativistic hydrodynamic simulations from the Black Hole Accretion Code as an input. We demonstrate that this code is able to consistently model synchrotron radiation both in the optically thick and thin cases, at arbitrary frequency, and discuss the underlying assumptions and tools common to all afterglow models. Finally, we give predictions for the future development of GW170817.

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Classification de Session: Conference day