

General Relativistic Magnetohydrodynamic Simulations of Accretion Flows onto Merging Supermassive Black Holes

Tuesday, 6 May 2025 11:15 (30 minutes)

I will present the results of our fully general relativistic magnetohydrodynamic simulations of accretion flows onto spinning supermassive black hole binary mergers. Supermassive binary black hole systems are formed after galaxy collisions and they are powerful sources of gravitational waves that will be detected by the future LISA mission. In our simulations we investigated the dynamics of the magnetized gas that may surround these systems during the last phases of inspiral, merger and post-merger. We studied systems with different black hole spin magnitudes and orientations in order to understand the effects of the black hole properties onto the electromagnetic counterparts that may be emitted.

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