Angular Momentum Loss for a Binary System in Einstein-Æther Theory

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The recent gravitational wave observations provide insight into the extreme gravity regime of coalescing binaries, where gravity is strong, dynamical and non-linear. The interpretation of these observations relies on the comparison of the data to a gravitational wave model, which in turn depends on the orbital evolution of the binary, and in particular on its orbital energy and angular momentum decay. In this talk, I will present the rate of angular momentum decay in the inspiral of a non-spinning compact binary system within Einstein-Æther theory. This rate of decay allows us to compute how the eccentricity and the semi-major axis change during an eccentric inspiral, which is larger than that predicted in General Relativity due to dipole radiation.