

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

Spin Precessing Black Hole Binaries in Dynamical Chern-Simons Gravity¹ NICHOLAS LOUTREL, NICOLAS YUNES, Montana State University, TAKAHIRO TANAKA, Kyoto University — Spinning black holes in binary systems under go spin precession, as well as precession of the orbital plane, as a result of the coupling between the black hole spins and the orbital angular momentum. This effect introduces an observable modulation in the amplitude of the gravitational waves emitted by the binary. In dynamical Chern-Simons gravity, spinning black holes are modified from General Relativity through the presence of a scalar dipole moment, which is proportional to the spin of the black hole. Such additional degrees of freedom modify the spin precession equations, and thus the observable modulation of the gravitational waves. In this talk, I will discuss how to approach the spin precession of black holes in dynamical Chern-Simons gravity from an effective field theory perspective and discuss how the modulation of gravitational waves differs from General Relativity.

¹Supported by NSF EAPSI Fellowship Award No. 1614203 and NSF CAREER Grant PHY-1250636.

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Date submitted: 27 Sep 2016

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