

Abstract Submitted  
for the APR20 Meeting of  
The American Physical Society

**3+1 Formalism in Einstein-Scalar-Gauss-Bonnet Gravity** FELIX

JULIE, Johns Hopkins University — I will present the Arnowitt-Deser-Misner (ADM) lagrangian and hamiltonian of Einstein-scalar-Gauss-Bonnet (EsGB) theories, as well as the resulting 3+1 field equations. The ADM hamiltonian being multi-valued, the 3+1 field equations allow for multiple branches of evolution for a given initial data set, and can hence break down in situations I will discuss. This work could be used to generate numerical relativity waveforms associated to the coalescence of binary black holes in EsGB gravity.

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Date submitted: 17 Jan 2020

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