

Abstract Submitted
for the APR20 Meeting of
The American Physical Society

Numerical renormalization group-based approach to secular perturbation theory JOSE GALVEZ GHERSI, LEO STEIN, Univ of Mississippi — It is not unusual to find divergent solutions after applying the standard methods of perturbation theory to calculate truncated corrections to any set of equations of motion modified perturbatively. In this talk, we show a novel procedure, which not only avoids those divergences; but also improves the accuracy of first-order solutions. Our technique maps the perturbed solution to the renormalization group generators to transform the constant model parameters into time-dependent expressions. Such new model parameters boost the accuracy of the renormalized solutions. Prospectively, this procedure can be extended to the computation of corrected GW waveforms by extra degrees of freedom in modified theories of gravity.

Jose Galvez Gheri
Univ of Mississippi

Date submitted: 09 Jan 2020

Electronic form version 1.4