1139-83-128 **Federico Pasqualotto***, fp2@princeton.edu. *Nonlinear stability for the Maxwell–Born–Infeld system on a Schwarzschild background.*

The Maxwell–Born–Infeld (MBI) theory is a hyperbolic system of PDEs which describes nonlinear electromagnetism. Due to its tensorial and quasilinear nature, this system can be seen as a nonlinear model problem to study the stability properties of solutions to the Einstein vacuum equations. In this talk, I will present a nonlinear stability result for the MBI system on a fixed Schwarzschild background, when the initial data are constrained to be small. A crucial element of the proof is the observation that some null components of the MBI field satisfy "good" Fackerell–Ipser equations, as in the linear Maxwell case. However, in the MBI case, these equations are coupled through cubic nonlinear right hand sides, which contain all components of the MBI field. In order to resolve the coupling, we prove high-order energy decay and, subsequently, pointwise decay for all the components of the MBI field. This is achieved through the application of several ideas developed in recent years, regarding the decay of linear fields. (Received February 05, 2018)