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## Non-ideal effects in relativistic plasmas with the ECHO code for GRMHD

*Tuesday 26 April 2016 15:00 (20 minutes)*

Axisymmetric GRMHD equilibria in 3+1: general formalism, numerical methods, and application to magnetized NS modeling We review the force-free and GRMHD equations for stationary and axisymmetric equilibria in general relativity within the 3+1 formalism. Numerical methods and detailed GRMHD modeling for the description of the structure and magnetosphere of magnetized neutron stars are shown and discussed, for both the static and rotating cases, employing the (extended) conformal flatness approximation. In particular we present the XNS and X-ECHO codes developed by the Firenze group.

**Presenter:** DEL ZANNA, Luca

**Session Classification:** Afternoon session