Abstract Submitted
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Constructing initial data for magnetized rotating and binary compact objects[1] CHARALAMPOS MARKAKIS, University of Wisconsin - Milwaukee, KOJI URYU, University of the Ryukyus, Okinawa, ERIC GOURGOULHON, Observatoire de Paris - Meudon — We report work in progress towards a relativistic formulation for constructing magnetized rotating or binary neutron star initial data, in an ideal MHD approximation. The formulation involves a self-consistent scheme for solving the Einstein-Maxwell and MHD-Euler equations for systems with an approximate helical symmetry. Numerical codes based on this scheme are expected to model magnetars with non-axisymmetric magnetic fields as well as magnetized binary neutron star systems in quasi-equilibrium.

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