Relativistic MHD and black hole excision: Formulation and initial tests[1] ERIC HIRSCHMANN, DAVID NEILSEN, STEVEN MILLWARD, Brigham Young University — It is widely expected that strong magnetic fields are an important factor in the dynamics of many relativistic and energetic astrophysical phenomena. As a consequence, several groups have begun work on developing approaches to simulating the equations of relativistic magnetohydrodynamics. We present one such approach, including our formalism, high resolution shock capturing method on multiple coordinate patches, primitive variable solver and solenoidal constraint solver. We present tests and results in flat space.

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