

Abstract Submitted
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Deriving magnetofluid models from action principles¹ P.J. MORRISON, IFS and the University of Texas at Austin — An algorithmic prescription is described for building action principles for plasma magnetofluid models that are extensions of magnetohydrodynamics. The action principles naturally lead to physically important invariants and Hamiltonian structure. Also, a prescription for obtaining reduced fluid models is given. Examples relevant to laboratory plasma discharges and naturally occurring plasmas will be presented, including models with gyroviscosity and generalizations of Ohm's law.

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