

2C52

## Action Principle Derivation of Generalized Magnetofluid Models

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### Abstract

As it is well-known, ideal MHD possesses an action principle formulation when it is expressed in terms of Lagrangian (or material) variables.<sup>1</sup> Starting with a general magnetofluid Lagrangian, we derive action principles for both MHD approximations and generalizations that contain more complete versions of Ohm's law.

<sup>1</sup> W.A. Newcomb, Nuclear Fusion: 1962 Suppl. Part 2, p. 451

\* Supported by an appointment to the U.S. Department of Energy Fusion Energy Postdoctoral Research Program administered by the Oak Ridge Institute for Science and Education.