Abstract Submitted
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Low Frequency Plasma Lagrangian H. VERNON WONG, Institute for Fusion Studies, University of Texas at Austin — A formulattion of the plasma Lagrangian for low frequency electromagnetic perturbations is discussed, The analysis is based on a small Larmor radius expansion of the Vlasov equation in which the perpendicular magnetohydrodynamic (MHD) response is separated from the intrinsic parallel particle response. The Euler-Lagrange equations reproduce the linearized MHD and drift-kinetic equations. Hybrid "fluid-kinetic" equations are readily derived, with inclusion of kinetic and finite Larmor radius effects. Gauge invariance is preserved, and any representation of the perturbed fields can be accommodated.

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