

The metriplectic foundations of the guiding-center Vlasov-Maxwell-Landau equations
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The metriplectic foundations of guiding-center Vlasov--Maxwell--Landau theory are presented in terms of an antisymmetric Hamiltonian bracket and a symmetric dissipative bracket that satisfy exact energy-momentum conservation laws, while the dissipative bracket satisfies an H-theorem. In an axisymmetric magnetic field, the toroidal angular momentum is also conserved by both brackets. The guiding-center metriplectic bracket structure highlights the existence of a new collisional current density in the guiding-center Ampère-Maxwell equation.