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Semiclassical Boltzmann transport theory for multi-Weyl semimetals[1] HONGKI MIN, SANGHYUN PARK, SEUNGCHAN WOO, Seoul National University, E. J. MELE, University of Pennsylvania — Multi-Weyl semimetals are a new type of Weyl semimetals which have linear dispersion along one symmetry direction and anisotropic non-linear dispersion along the remaining two directions with a topological charge larger than one. Using the semiclassical Boltzmann transport theory fully incorporating the anisotropy of the system, we calculate DC conductivity as a function of density and temperature, and obtain its characteristic density and temperature dependence derived from the topological band structure of the system.

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