

Abstract Submitted  
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**Exact irreducible moments of the Landau collision operator in the random-velocity moment expansion**<sup>1</sup> JEONG-YOUNG JI, J. ANDREW SPENCER, ERIC D. HELD, Utah State University — Exact moments of the Landau collision operator are calculated for the irreducible Hermite polynomials written in terms of the random-velocity variable. We present closed, algebraic formulas that reproduce the results for the total-velocity moment expansion<sup>2</sup> and for the random-velocity moment expansion with the small mass-ratio approximation<sup>3</sup>. The collisional moments can be applied in the derivations of Braginskii and integral closures for arbitrary relative flow velocity between electrons and ions. Modifications to Braginskii closures are discussed.

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<sup>2</sup>J.-Y. Ji and E. D. Held, Phys. Plasmas **13**, 102103 (2006).

<sup>3</sup>J.-Y. Ji and E. D. Held, Phys. Plasmas **15**, 102101 (2008).

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