

Abstract Submitted
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Lagrangian model for interactions of nonlinear waves in inhomogeneous nonstationary plasma¹ I.Y. DODIN, N.J. FISCH, PPPL — Asymptotic Lagrangian equations of nonlinear geometrical optics (GO) are extended to describe multiple-wave coupling, particularly in application to Raman backscattering. The equations preserve conservative form in the presence of nonlinear frequency shifts, with both spatial and temporal gradients allowed in the bulk plasma. That, and also the fact that nonlinear splitting of group velocities is retained, renders the model more accurate than the popular GO limit of the nonlinear Wigner-Moyal equation.

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