

Abstract Submitted
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An Improved Model for Studying the Role Played by the Trapped Particle Instability in SRS Simulations¹ STEPHAN BRUNNER, CRPP-EPFL, ERNEST VALEO, PPPL — Simulations under laser-fusion conditions have shown the potential role played by the trapped-particle instability (TPI) in saturating the non-linear evolution of Stimulated Raman Scattering (SRS). The TPI may indeed act as a secondary instability by breaking-up the primary electron plasma wave [S. Brunner and E. Valeo, *Phys. Rev. Lett.* **93**, 145003-1 (2004)]. First analysis of simulation results were performed using the reduced model of Kruer for the TPI [W. L. Kruer *et al.*, *Phys. Rev. Lett.* **23**, 838 (1969)]. An improved analysis tool has now been developed which directly implements the general linear stability theory of large BGK-like plasma waves [M. Goldman, *Phys. Fluids* **13**, 1281 (1970)]. The implementation of this stability analysis tool, and its application to the SRS simulation results will be presented.

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