

Abstract Submitted
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Stimulated backscattering in speckled laser beams¹ EDWARD WILLIAMS, LAURENT DIVOL, Lawrence Livermore National Lab — High power lasers used for laser-plasma interaction experiments are commonly equipped with phase plates, which create high intensity speckles in their far field. Independent speckle models for stimulated backscatter have been proposed in which the reflectivity is determined by a convolution over the speckle intensity distribution. Such models should apply when the resonant amplification region extends over no more than a characteristic speckle length. By a variational approach, we show how these results are modified if the amplification region extends over multiple speckle lengths, reducing the contrast of the effective intensity distribution. We compare these results with those obtained using our laser-plasma interaction code pF3D.

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