

Abstract Submitted
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Beam plasma electromagnetic instabilities in a smooth density gradient: Applications to ICF fast ignition ANTOINE BRET, ETSII UCastilla-Mancha, CLAUDE DEUTSCH, LPGP UParis XI, BRET COLLABORATION
— We detail a calculation of the integrated growth rate (GR) of an instability in a weakly varying plasma density gradient using a WKB-like approximation. We justify such an assumption in the fast ignitor scenario context. Our formalism includes 2-stream, filamentation and 2-stream/filamentation instabilities. The latter features an appropriate mixture of the separate two former ones. It is also the fastest. We demonstrate that filamentation is damped through the density gradient whereas 2-stream and 2-stream/filamentation saturate even before being submitted to the density gradient.

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