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Detrimental Plasma Memory Effect Build Up Locally and Nonlinearly, as well as Globally and Fractally in RPP/SSD beams Subdued by Using STUD Pulses ANAS BOUZID, BRADLEY SHADWICK, University of Nebraska-Lincoln, STEFAN HLLER, Centre de Physique Theorique, Ecole Polytechnique, BEDROS AFEYAN, Polymath Research Inc. — We show how long time correlations build up in space and time locally in a single hot spot, as well as globally through many tranches of hot spots for backscattering instabilities. STUD pulses remove such obstacles by combatting the memory build up effects directly. Experiments are proposed that can test these predictions. Statistical optical tools are used to characterize the behavior of scattered light fields re-amplifying in various stages and spreading in angular reach fractally. An analytic model is proposed capturing these effects.

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