

P 8: Poster Session - Laser Plasmas

Zeit: Montag 16:30–18:30

Raum: Foyer Audimax

P 8.1 Mo 16:30 Foyer Audimax

Dynamics of spatially overlapping flat top solitons in plasmas
— ●SITA SUNDAR — Indian Institute of Technology Kanpur, India

Interaction of ultra-intense laser with plasma exhibits a rich variety of interesting nonlinear phenomena. Numerical and asymptotic solutions describing the interactions of relativistically intense plane electromagnetic waves and cold plasmas are of fundamental importance for nonlinear science and are considered to be a basic component of

turbulence in plasmas. The numerical identification of solitons stimulated a renewed interest in developing an analytical model and in envisaging ways of detecting solitons experimentally. The inclusion of ion response in the relativistically intense electromagnetic laser pulse propagation in plasma yields certain distinct varieties of single peak solitonic structures. A flat-top slow moving structure is one such solution. Here, detailed characterization and numerical investigations on mutual interactions between two spatially overlapping electromagnetic flat-top solitons in plasma will be presented.