Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

Study of trapping in nonlinear multi-dimensional wakes MING ZENG, Shanghai Jiao Tong University, ASHER DAVIDSON, University of California, Los Angeles, WEI LU, Tsinghua University, ZHENGMING SHENG, Shanghai Jiao Tong University, WARREN MORI, University of California, Los Angeles — Using the code OSIRIS we examine the wakes and particle trapping for non-evolving drivers. We examine how the trapping threshold depends on wake amplitude and wake phase velocity as well on the pseudo-potential. We concentrate on particle beam drivers and vary the driver strength (normalized current) driver shape, spot size, and velocity. We compare the phase velocity of the wake to that of the driver beam. We find that as one nears the onset of trapping the phase velocity of the wake becomes less stable and varies back through the wake. We compare the results with analytical predictions and with cases where the driver does evolve.

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Date submitted: 13 Jul 2012 Electronic form version 1.4