

## SCALING AND TRANSFORMER RATIO IN A PLASMA WAKEFIELD ACCELERATOR

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### *Abstract*

High gradient acceleration of electrons has recently been achieved in meter scale plasmas at SLAC. Results from these experiments show that the wakefield is sensitive to parameters in the electron beam which drives it. In the experiment the bunch lengths were varied systematically at constant charge. Here we investigate the correlation of peak beam current to the wake amplitude. The effect of beam head erosion will be discussed and an experimental limit on the transformer ratio set. The results are compared to simulation.

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