

Abstract Submitted
for the DPP12 Meeting of
The American Physical Society

Numerical study of wave damping and amplification through ionization and recombination¹ VASILY GEYKO, NATHANIEL FISCH, Princeton University — Plasma wave energy in slowly ionizing or recombining plasma obeys general adiabatic invariants [1]. For a simple model of a homogeneous in space ionization we studied the behavior of a 1D Langmuir wave using our PIC code. However, discrepancies are found from the theory for linear waves [1] with unusual effects attributed possibly to ponderomotive focusing, namely, different damping rates for standing and moving waves.

[1] I.Y. Dodin and N.J. Fisch, Phys. Plasmas 17, 112113 (2010).

¹Supported by DOE contract No. DE-AC02-09CH11466.

Vasily Geyko
Princeton University

Date submitted: 19 Jul 2012

Electronic form version 1.4