

CENTER FOR BEAM PHYSICS SEMINAR

“Bifurcations in Asymmetric Non-Neutral Plasmas”

Prof. Joel Fajans
UC Berkeley

Friday March 8, 2002, 10:30 AM
Albert Ghiorso Conference Room (71-264), LBNL
Refreshments served at 10:20 AM

Abstract: Pure electron plasmas deform into asymmetric shapes when subjected to stationary, azimuthally asymmetric potential perturbations. If the perturbation is not too strong the shapes are stable, but the system will become unstable and bifurcate when the perturbation is sufficiently increased. The stability and type of bifurcation can often be predicted from the system symmetries.

Biographical Sketch: Joel Fajans obtained his physics Ph.D. from MIT in 1985 under the supervision of George Bekefi. His thesis work, on free electron lasers, received the Simon Ramo thesis prize from the APS. He postdoc'ed with John Malmberg at UC San Diego and came to UC Berkeley in 1989. His work on non-neutral plasmas was initially supported by a Presidential Young Investigator grant and an Office of Naval Research Young Investigator award. Joel studies asymmetric equilibria, adiabatic invariants, shielding, autoresonance, 2D fluid dynamics, bioterrorism, and the physics of bicycling.