Contribution ID: **20** Type: **not specified**

Dynamical Stability of Slip-stacking

Monday, 9 June 2014 10:50 (20 minutes)

Slip-stacking is an accelerator configuration that has been used at Fermilab to nearly double proton intensity since 2004. Our analysis provides a new look at the dynamics, calculating for the first time the stable-phase space area and the injection efficiency as a function of aspect ratio. We also find the first complete perturbative solutions and parametric resonances from slip-stacking. We've also shown that is directly corresponds to the driven pendulum and may have applications for standing-wave traps used in optical and acoustic physics.

Session Classification: Session 1