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Multi-particle simulation of Space Charge Dominated Beam HUNG-CHUN CHAO, SHYH-YUAN LEE, Indiana Unversity — We develop an efficient multi-particle tracking technique to study space charge effects on beams. The simulation code is used to study the envelope instability and its effect on emittance growth. Furthermore, we examine the feasibility of stopband correction for envelope tune resonance to minimize emittance growth. We also use this code to study other intrinsic space charge resonances.

Hung-Chun Chao
Indiana Unversity

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