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Transverse-Longitudinal Coupling in High-Intensity Cyclotrons

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Isochronous cyclotrons have no longitudinal focusing at low beam intensities. However, at high intensities the space charge force induces coupling of longitudinal and horizontal motion. This effect is used in the INJECTOR II cyclotron and allows operation without flattop cavity. The linear coupling terms are modeled and analyzed with emphasis on the cyclotron phase curve.

Please indicate preferred presentation (poster or talk?)

talk

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