

ACCELERATOR SEMINAR

“Beam-Beam Effects of Gear Changing in Ring-Ring Colliders”

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In ring-ring colliders, the collision frequency determines the bunch structures, e.g., the time between the bunches in both rings should be identical. Because of relatively low relativistic speed of the hadron beam in sub-TeV hadron-hadron and electron-ion colliders, scanning the hadron beams energy would require either a change in the circumference of one of the rings, or a switching of the bunch (harmonic) number in a ring. The later would cause so-called gear changing, i.e., the change of the colliding bunches turn by turn. In this talk, we study the difficulties in beam dynamics in this gear-changing scheme.

Friday, January 23, 2015

10:00 a.m.

Applied Research Center, Room 231/233

Coffee before seminar beginning at 9:45 a.m.