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Can we improve the magnetic model/cycle and its effects?

Wednesday 8 December 2010 09:50 (25 minutes)

We recall the precycling strategy defined for operation and we give an overview of how it has been applied in the 2010 run: in how many cases the previous physics run has been used as a precycle, in how many cases we precycled the magnets, and how we did it w.r.t. specifications. 2010 run was characterized in some periods by non-nominal conditions such as lower ramp rate (2 A/s) in the main magnets and lower current (2 kA, 4 kA and 6 kA) as a main magnet flattop current. We will review these different phases and try to correlate with the beam observables.

We analyse the reproducibility of tune and chromaticity, giving an estimate of the present precision of the magnetic model and discussing if it is possible to improve it. We review how the hysteresis is presently treated in the field model, and its drawbacks on the beta beating corrections during the squeeze. Possible strategies to solve the hysteresis issue will be presented.

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