ACCELERATOR SEMINAR

Claude Krantz

Marburger Ionenstrahl-Therapiezentrum

Thursday, 25 April at 4 pm

KBW (Lecture Hall)
Planckstraße 1, 64291 Darmstadt

Slow Extraction at the Marburg Ion-Beam Therapy Synchrotron

The Marburg Ion-Beam Therapy Centre (MIT) operates an ion synchrotron for hadron therapy using proton and carbon ion beams. Slow extraction is a key technique for successful application of the raster scanning method, which requires stable beam properties on time scales of seconds to sub-milliseconds. We present the RF knock-out (RF-KO) system of MIT featuring dynamic intensity control of the spill, and how careful matching of the RF-KO spectrum to the machine tune can improve micro- and macro-properties of the particle spill. Presently, we investigate, how fast tune modulations using an air-core quadrupole magnet can be used as a way to mitigate power-grid related ripple of the spill intensity.

Coordinator: Vera Chetverkova
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