

A New Diagnostic for Betatron Phase Space Matching at Injection into a Circular Accelerator,
C. BOVET, R. JUNG, CERN, Geneva - For proton and ion accelerators and colliders, betatron matching at injection is a delicate operation, vital to keep high phase space density. A new procedure is proposed in which a single detector, installed in the circular machine, measures the beam size for a dozen successive turns prior to beam dumping. Applications to SPS and LHC are analysed in details and practical solutions are presented for the detector: use of a thin screen and of a special CCD readout system.