

BUNCH-BY-BUNCH INSTABILITY FEEDBACK SYSTEMS

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Abstract

Bunch-by-bunch feedback systems have played an important role in the steady improvement of accelerator performance. Accelerators now routinely operate at beam intensities that exceed both longitudinal and transverse instability thresholds. This paper will conceptually introduce these instabilities and the feedback techniques that can suppress them. With a concentration on technical approach, an overview of existing feedback systems will be presented. Trends in the enabling technologies will be identified. The paper will conclude with some examples of future applications.