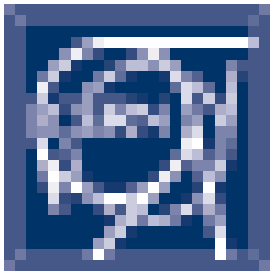

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CERN LEIR LLRF

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From 2008 onwards the LHC physics programme will include, in addition to proton-proton collisions, running periods with heavy-ion collisions. The injector complex has to be adapted in order to satisfy LHC ion requirements. In particular, a Low Energy Ion Ring (LEIR) has been built at CERN and will be commissioned by early/mid 2006. LEIR will be equipped with a new digital beam control and cavity servoing system, based on VME modules and daughtercards carrying Analog Devices floating point DSPs and Altera FPGAs. The system will include, among others, frequency program, phase and radial loop capabilities, vector sum and dual harmonic cavity servoing. Several features will be implemented by software, e.g. phase rotation and signals delay, timing events and reference functions generation. Finally, full digital diagnostics information will be provided. This system will also serve as a pilot project for its migration to the other accelerators of the PS complex, such as the Antiproton Decelerator, the PS Booster and PS. This talk outlines the system capabilities and the new schemes used for their implementation. Some test results obtained by a scaled-down version of the system deployed in the PS Booster will also be given.

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