

## **REVIEW ON PROGRESS IN RF CONTROL SYSTEMS**

Matthias Liepe, Cornell University

### *Abstract*

In the past two decades accelerator controls and feedback systems have changed dramatically. While in the past relatively simple analog systems were used, present systems are highly complex, and all accelerators in planning or under construction heavily rely on advanced feedback and feedforward control schemes. The Low-Level-Radio-Frequency (LLRF) system not only stabilizes the field in the RF cavities, but also has to provide among other things frequency control, exception handling, extensive diagnostic, and performance and machine availability maximization. As manifold as the tasks are for the LLRF system, so are the challenges. Linac driven light sources require highest field stability, while pulsed machines or low beta linacs bring their own challenges for the LLRF system. This presentation reviews the challenges and demands on present and future LLRF systems, gives an overview of state-of-the-art solutions, and an introduction into a very active and exciting field of accelerator physics.

**NO SUBMISSION RECIEVED**