

The New RF Control System for the CERN SPS Accelerator, P. BAUDRENGHIEN, E. BRACKE,

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The old SPS RF control system designed in 1972 has been replaced completely, i.e. both hardware and software. The new system has to control both RF equipment conceived during the last 23 years and future (modern) equipment. Using information analysis methods, we derived a model of an RF command and designed a data base accordingly (ORACLE®). Information from this data base is used for command generation and processing and also for archiving settings. The advantage is purely generic software, i.e. the same computer code is used for switching on an RF amplifier, as for setting a frequency synthesizer. New equipment is added very simply by entering new records in the data base. Additional features include a reservation scheme whereby a user can take private control of any piece of equipment, a reporting facility notifying the user of the simultaneous control activity by other users on RF equipment, and a capability scheme assigning a level of expertise to each user restricting action on the equipment.