

The LLS Magnet Test Facility as an Evaluation of the Accelerator Control System Requirements,
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A. MOLINS, J. A. PERLAS, IFAE Bellaterra - In the process of making a detailed design for a synchrotron in Barcelona, we are setting up a magnet test facility to verify the dipole prototypes performance. We have designed the control system of this measurement bench such that it can additionally serve for the evaluation of the accelerator control system. To this aim, we apply the philosophy chosen for the future accelerator: (i) use of commercial software packages, (ii) use of stand-alone instruments controlled remotely via bus, (iii) simplification of used bus types, and (iv) manpower minimisation. We describe the results in terms of cost and development effort of using this philosophy. We also describe the general features of the DAQ/control system for the automation of the whole measurement. The system is composed of two Hall probes attached to a high precision mechanical arm and a combined dipole magnet with its power converter. A NMR system is used to calibrate the Hall probe. This system has been implemented in two architectures: (a) PC based with commercial hardware and software, (b) distributed system using EPICS. We discuss the benefits obtained with both systems and we compare them in order to confirm our design choices for the final LLS control system.