

The LHC Test String: First Operational Experience, A. BEZAGUET, D. BRAHY, J. CASAS-CUBILOS, L. COULL, P. CRUIKSHANK, K. DAHLERUP-PEDERSEN, P. FAUGERAS, B. FLEMSAETER, H. GUINAUDEAU, D. HAGEDORN, B. HILBERT, G. KRAINZ, N. KOS, D. LAVIELLE, P. LEBRUN, G. LEO, A. MATHEWSON, D. MISSIAEN, V. PARMA, JP. QUESNEL, D. RICHTER, G. RIDDONE, A. RIJLLART, F. RODRIGUEZ-MATEOS, P. ROHMIG, R. SABAN, R. SCHMIDT, L. SERIO, M. SKIADELLI, A. SURACI, L. TAVIAN, L. WALCKIERS, E. WALLEN, R. VAN WEELDEREN, L. WILLIAMS, CERN, Geneva, Switzerland; A. MCINTURFF, LBL, Berkeley (CA), USA - CERN operates the first version of the LHC Test String which consists of one quadrupole and three 10-m twin aperture dipole magnets. An experimental programme aiming at the validation of the LHC systems started in February 1995. This programme has provided 120 days devoted to experiments and the string has been powered 40 times 13 of which at 12.4 kA or above. The experiments have yielded a number of results some of which, like quench recovery for cryogenics, have modified the design of subsystems of LHC. Others, like controlled helium leaks in the cold bore and quench propagation between magnets, have given a better understanding on the evolution of the phenomena inside a string of superconducting magnets cooled at superfluid helium temperatures. Following the experimental programme, the string will be powered up and powered down in one hour cycles as a fatigue test of the structure thus simulating 20 years of operation of LHC.