

Present performance of the CERN accelerator complex by M. Benedikt

The capabilities and the performance of the CERN accelerator complex are analyzed, based on the present status of the accelerators. This is done by estimating the availability of proton beams for the period 2006 to 2010 and comparing it to the anticipated physics programme, to highlight any possible shortfall. Typical operation scenarios with yearly running periods and machine availabilities are defined, including specific assumption for LHC beam requests during the first years of operation, based on LEP experience. The present performances of the accelerators in terms of available beam brightness, maximum intensity per cycle and repetition rate are used for the analysis. Functional relationships between the beam availabilities for the various users are discussed. Special emphasis is given to operations that imply important beam losses along the accelerator chain and the most relevant consequences are outlined. Finally, potential upgrade wishes of the different users and the most important limitations of the accelerator complex are discussed.