

PREPARING FOR THE LHC EXPERIMENTS

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Abstract

The 'Large Hadron Collider', LHC, is in preparation at CERN. Proton-proton collisions at energies of up to 14 TeV will probe the laws of the fundamental interactions at effective energies of 1 TeV or higher. At these energies, today's 'Standard Model' predicts the observation of new fundamental processes. Furthermore, this description may have to be expanded to a more global theory. The discovery potential of the LHC, and the strategies chosen by the experimental team is described. The need for international collaboration is discussed with a number of examples. The important contributions of Russian groups to the LHC experiments are explained.

Suggested further reading (a small selection).

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C.W. Fabjan. "LHC: Physics, Machine, Experiments", Proc. of CAM-94 Physics meeting, AIP Conference Proceedings 342 (1994) pp. 303-334.

D. Fournier, L. Serin. "Experimental Techniques", Proc. 1995 European School of HEP, Dubna, Russia. CERN 96-04, pp. 291-363.

N. Ellis. "The Challenges of LHC", to appear in Techniques and Concepts of HEP IX, ed. T. Ferbel. Lectures given at NATO Advanced Study Institute on Techniques and Concepts of HEP, St. Croix, USVI, July 11-22, 1996. To be published by Plenum.