

Talk-17

Prospects and Challenges in Elementary Particle Physics

Stuart Freedman

University of California, Berkeley

Lawrence Berkeley National Laboratory

Institute for the Physics and Mathematics of the Universe

Abstract

The quest to understand the nature matter at the most fundamental level is the goal of particle physics and there has made amazing progress since the middle of the 20th of century. The confluence of experimental discoveries and theoretical insights present us with a surprisingly successful model, the Standard Model, which incorporates nearly everything that is know from experiment. At the same time there are aesthetic considerations that make the Standard Model an unsatisfying solution. The present crisis may be resolved by the new experiments poised to address the key questions with experiments carried out around the World.