

**XXXVII^{ième} Rencontres de Moriond: Electroweak 2002 Conference Summary**

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A substantial body of data is described by the *Standard Model* of particle physics. However the description is far from perfect and there is a growing number of internal inconsistencies. These fall short of qualifying as discoveries; nevertheless, examination of their merits is both interesting and worthwhile. The existence of three families of quarks and leptons is not understood. There are new data, especially from the B factories; the latter are shining new light on the problem. From several experiments, data show that our thoughts about the existence of transitions between neutrino flavors, oscillations, may be correct but the understanding of the patterns needs work. However, we see the opening of a number of avenues of investigation as new facilities and experiments come online.

1 Introduction

A conference summary, even in this case, in which the summary is limited to the experimental talks and presentations, is problematic. Neither the talk nor the written summary do justice to the total content of the individual contributions. Nevertheless, in this paper, I attempt to give a sense of the physics I have learned from the more than fifty talks about experiments presented at the XXXVII^{ième} Rencontres de Moriond (Electroweak).

The paper is organized such that I start with a brief discussion of a number of *Searches for New Phenomena* which, unfortunately, did not find anything which goes beyond our current description of the world. This is followed by a discussion of the advances in *Neutrino Physics*. A sub-field enjoying focussed attention is that of the *Quark Flavor Physics* of quarks. There are beautiful measurements and some surprises as competitive experiments present independent preliminary results and these are discussed in Section 4. In section 5, we embark on a discussion of the *Precision Electroweak Measurements*. It was a surprise to me that it is difficult to make a clear distinction between the precision measurements and what I call *Puzzles*. These measurements, which do not fit well into the standard model, are discussed in Section 6 followed by consideration of the way forward with *New Starts* being discussed in Section 7. Finally, Section 8 contains a very brief *Perspective*.