

Lectures on the Weak Interaction Prof. Michael E. Peskin (SLAC, Stanford University)

- Lectures on the Weak Interaction
Prof. Michael E. Peskin (SLAC, Stanford University)

April 3 (Mon.), 5 (Wed.) and 6 (Thur.), 10:30-12:00.
Room 233.

Abstract:

This is a series of 3 lectures on the Standard Model of the weak interaction. The lectures will emphasize predictions of observable quantities and their experimental tests. The prerequisite is that students should have seen the derivation of the couplings of the Z and W bosons from the Standard Model. The content of the lectures will be:

1. The structure of the weak interactions and the meaning of "V minus A"

I will discuss the structure of the weak interaction at low energies and the consequences of the fact that the couplings of the W are purely left-handed.

2. Precision studies of the Z boson

I will review the program of experiments on the production and decay of the Z boson, mainly at the e^+e^- colliders LEP and SLC, emphasizing the variety of observables that are measured with high precision.

3. Precision studies of the Higgs boson

I will review the discovery and study of the Higgs boson at the LHC and the current status of our knowledge of the Higgs boson. I will then discuss the future program of precision studies of the Higgs boson at e^+e^- colliders.

Students who cannot attend Monday and are familiar with the basics of weak interactions can join on Wednesday.

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