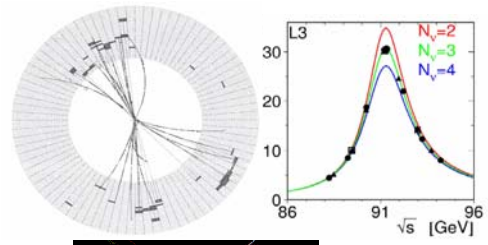

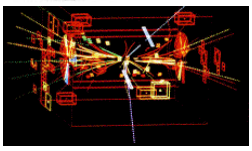

Advanced Particle Physics

Date: Friday, 9:15 – 11:00

Venue: HS2 INF227

Lecturer: Ulrich Uwer

http://www.physi.uni-heidelberg.de/~uwer/lectures/ParticlePhysics/

Advanced Particle Physics

Outline

I. Introduction
II. Pre-requisite
III. QED for “pedestrians”
IV. e^+e^- annihilation experiments below the Z resonance
V. Experimental studies of QCD
VI. Probing the weak interaction
VII. Electro-weak unification: Phenomenological approach to the SM
VIII. Experimental test of the Standard Model (SM)
IX. Flavor oscillations
X. The quest for new physics at current and future accelerators

Literature

- F.Halzen, A.Martin: Quarks and Leptons, John Wiley.
- C.Berger: Elementarteilchenphysik, Springer.
- D.H.Perkins: Introduction to High Energy Physics, Cambridge University Press.
- D.Griffith: Introduction to Elementary Particles, John Wiley.
- P.Renton: Introduction to the Physics of Quarks and Leptons, Cambridge University Press.
- E.Leader und E.Predazzi: An Introduction to Gauge Theories and Modern Particle Physics, Vol. 1+2, Cambridge Mongraphs.
- Particle Data Group: Review of Particle Physics, 2006.
- Original literature
- Web links