



Sommerfeld Theory Colloquium

Prof. Matthew Schwartz

Harvard University, USA

The Emergence of Jets at the Large Hadron Collider

The theory of the strong interactions, quantum chromodynamics, predicts an amazing diversity of phenomena, from atomic nuclei to the quark-gluon plasma. At high energies, such as those reached at the Large Hadron Collider, the strong force becomes weak and short distance interactions are manifested as collimated beams of particles known as jets. Understanding the physics of jets will be critical to extracting underlying fundamental physics from the LHC data. To do so will require new insights into what jets are and how to calculate their properties. In particular, since jets are not well-described at any fixed order in the standard perturbation expansion, methods which reorganize the degrees of freedom, such as effective field theory, will be essential. This talk will review the origin of jets, why they are interesting, and some recent developments in jet physics.

Wednesday, 6 June 2012, 16:15h, Room A348/349, Theresienstr. 37/III