



Vrije Universiteit Brussel

Lectures on B Physics 19-20th of April 2011
Vrije Universiteit Brussel

Dr. Niels Tuning (NIKHEF)

“A review of B Physics”

The tiny breaking of the discrete symmetry under the combined Charge and Parity operators is responsible for a subtle difference between matter and antimatter. These lectures will cover the theory of CP violation and its place in the heart of the Standard Model. The experimental methods to study CP violation through the decays of B-mesons will be examined in detail. From this, it will become evident that the detailed study of B-decays is a sensitive - indirect - search for New Physics, complementary to the direct search at Atlas and CMS.

Location: Vrije Universiteit Brussel – Campus Oefenplein – 1.G.003 (1st level of building G, room 003; large seminar room of the IIHE)

Lecture 1: Introduction to discrete symmetries (19th of April; 14-17h)

Including P, C and CP symmetries, the CP violation in the Standard Model Lagrangian, the CKM matrix, ...

Lecture 2: Flavour mixing and CP-violation (20th of April; 10-13h)

Including the flavour mixing in B-mesons, CP-violation in B-decays, CP-violation in the K-system, ...

Lecture 3 : The unitarity triangle (20th of April; 14h-16h)

Including the present experimental status of CP violation, ...

For more information please contact Prof. J. D'Hondt (jodhondt@vub.ac.be)