

ED Amsterdam-Brussels-Geneva-Paris and EDPIF

SUPERSYMMETRY

U. Ellwanger (LPT Orsay)

Lectures:

Institut Henri Poincaré, 11 rue Pierre et Marie Curie, Room 201

Monday 6/11, 9h30-12h30 and 14h00-17h00

Tuesday 7/11, 9h30-12h30 and 14h00-17h00

Wednesday 8/11, 9h30-12h30 and 14h00-17h00

Requirements: Basics of Quantum Field Theory

Program (incl. exercices)

Weyl Spinors

N=1 Supersymmetry in Components, Supersymmetry Algebra

Superspace, Superfields, Wess-Zumino Model

Supersymmetric Gauge Theories

Spontaneous Supersymmetry Breaking, Spontaneous Gauge Symmetry Breaking

R-Symmetry and R-Parity

(Radiative Corrections, Soft Supersymmetry Breaking, MSSM)

Literature

J. Wess and J. Bagger, "Supersymmetry and Supergravity"

(Princeton Series in Physics)

S. Martin, "A Supersymmetry Primer", arXiv:hep-ph/9709356

(from, e.g., <http://www.slac.stanford.edu/spires/hep/>)

P. Binetruy, "Supersymmetry: Theory, Experiment, and Cosmology"

(Oxford Graduate Texts)

M. Drees, "An Introduction to Supersymmetry", arXiv:hep-ph/9611409

H. Nilles, "Supersymmetry and Supergravity", Phys. Rept. 110 (1984) 1

D. Bailin, A. Love, "Supersymmetric Gauge Field Theory and String Theory"

(Graduate Student Series in Physics)