



École doctorale de Physique en Île de France

ED564, PSL – UPMC – USPC – UPSaclay

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COURS Supersymmetry

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Content:

Weyl Spinors
N=1 Supersymmetry in Components, Supersymmetry Algebra
Superspace, Superfields, Wess-Zumino Model
Supersymmetric Gauge Theories
Spontaneous Supersymmetry Breaking, Spontaneous Gauge Symmetry Breaking
Radiative Corrections, Soft Supersymmetry Breaking, Hierarchy Problem
The MSSM: Higgs Potential, Higgs Masses, Sparticle Masses
R-Symmetry and R-Parity

Requirements: Basic Quantum Field Theory, Standard Model of Particle Physics

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)

Merc. 10/05 - vend. 12/05

10h00-13h00 et 14h15-17h15

LPT Orsay, Bat. 210, Campus d'Orsay

Salle 114 (salle des séminaires, 1ere étage)

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