Advanced Theoretical Particle Physics - physics636

Course	**Advanced Theoretical Particle Physics**
Course No.	physics636

Category	**Type**	**Language**	**Teaching hours**	**CP**	**Semester**
Elective	Lecture with exercises	English	3+2	7	ST

Requirements for Participation:

Preparation: Theoretical Particle Physics (physics615)

Form of Testing and Examination: Requirements for the examination (written): successful work with the

Length of Course: 1 semester

Aims of the Course: Survey of methods of theoretical high energy physics beyond the standard model, in particular supersymmetry and extra dimensions in regard to current research

Contents of the Course:

Introduction to supersymmetry and supergravity,

Supersymmetric extension of the electroweak standard model,

Supersymmetric grand unification,

Theories of higher dimensional space-time,

Unification in extra dimensions

Recommended Literature:

J. Wess; J. Bagger; Supersymmetry and supergravity (Princeton University Press 1992)

H. P. Nilles, Supersymmetry, Supergravity and Particle Physics, Physics Reports 110 C (1984) 1

D. Bailin; A. Love; Supersymmetric Gauge Field Theory and String Theory (IOP Publishing Ltd. 1994)

M. F. Sohnius; Introducing supersymmtry, (Phys.Res. 128 C (1985) 39)

P. Freund; Introduction to Supersymmetry (Cambridge University Press 1995)

PDF version of this page.