Group Theory (T) - physics751

Course	**Group Theory (T)**
Course No.	physics751

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

Requirements:

Preparation: physik421 (Quantum Mechanics)

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

Length of Course: 1 semester

Aims of the Course: Acquisition of mathematical foundations of group theory with regard to applications in theoretical physics

Contents of the Course:

Mathematical foundations:

Finite groups, Lie groups and Lie algebras, highest weight representations, classification of simple Lie algebras, Dynkin diagrams, tensor products and Young tableaux, spinors, Clifford algebras, Lie super algebras

Recommended Literature:

B. G. Wybourne; Classical Groups for Physicists (J. Wiley & Sons 1974)

H. Georgi; Lie Algebras in Particle Physics (Perseus Books 2. Aufl. 1999)

W. Fulton, J. Harris; Representation Theory (Springer, New York 1991)

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