Nuclear and Particle Physics

Module No.: MN-P-SP-Nuc, MN-P-PN-Nuc, MN-P-WaMa Version: 12.02.2014 SG

Course: Theoretical Nuclear Physics III

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Category	Type	Language	Teaching Hours	CP	Semester
Specialized Course	Lecture	English	2	3	SuSe

Requirements for participation:
Theoretical Nuclear Physics I and II

Type of module examinations:
One oral examination at the end of the module

Duration of the course:
1 semester

Aims of the course:
Introduction to the theoretical description of nuclear structure. In part III emphasis is laid on boson-fermion and neutron proton degrees of freedom, dynamical symmetries and supersymmetries.

Contents of the course:

- Symmetry and supersymmetry in quantal many.body systems
- Symmetry in nuclear physics
- Supersymmetry in nuclear physics
- Symmetries with neutrons and protons
- Supersymmetries with neutrons and protons

Recommended literature:
A Frank, J. Jolie, P. Van Isacker Symmetries in Atomic Nuclei From Isospin to Supersymmetry
Springer Tracts in Modern Physics 230
http://link.springer.com/book/10.1007/978-0-387-87495-1