Module: Elective Advanced Lectures: Experimental Physics

Module No.: physics70a

Course: Experiments on the Structure of Hadrons (E)

Course No.: physics715

Category	Type	Language	Teaching hours	CP	Semester
Elective	Lecture with exercises	English	2+1	4	WT

Requirements for Participation:

Preparation:
Completed B.Sc. in Physics, with experience in quantum mechanics, atomic- and nuclear physics

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

Length of Course:
1 semester

Aims of the Course:
Understanding the structure of the nucleon, understanding experiments on baryon-spectroscopy, methods of identifying resonance contributions, introduction into current issues in meson-photoproduction

Contents of the Course:
Discoveries in hadron physics, quarks, asymptotic freedom and confinement; multiplets, symmetries, mass generation; quark models, baryon spectroscopy, formation and decay of resonances, meson photoproduction; hadronic molecules and exotic states

Recommended Literature:
Perkins, Introduction to High Energy Physics (Cambridge University Press 4. Aufl. 2000)
K. Gottfried, F. Weisskopf; Concepts of Particle Physics (Oxford University Press 1986)
A. Thomas, W. Weise, The Structure of the Nucleon (Wiley-VCH, Weinheim, 2001)