

# Module: Elective Advanced Lectures: Experimental Physics

Module No.: physics70a

Course:  universität**bonn**

## 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)