

**Modules:**

physics700 **Elective Advanced Lectures**  
 physics710 **Experimental Physics**

**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:****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)