Physics with Antiprotons (E) - physics720

Degree - M.Sc. in Physics (PO von 2014)

Module	**Elective Advanced Lectures: Experimental Physics**
Module No.	physics70a

Course	**Physics with Antiprotons (E)**
Course No.	physics720

Category	**Type**	**Language**	**Teaching hours**	**CP**	**Semester**
Elective	Lecture	English	2	3	WT

Requirements for Participation:

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

Form of Testing and Examination: Written or oral examination

Length of Course: 1 semester

Aims of the Course: Insight in current research topics with antiprotons, understanding experimental methods in particle and nuclear physics, understanding interrelations between different fields of physics such as hadron physics, (astro-)particle physics, atomic physics

Contents of the Course: Matter-antimatter asymmetry, test of the standard model, anti-hydrogen, anti-protonic atoms, antiproton beams, key issues in hadron physics with antiprotons, planned research facilities (FAIR) and experiments (PANDA)

Recommended Literature:

B. Povh, K. Rith, C. Scholz, F. Zetsche; Teilchen und Kerne (Springer, Heidelberg 8. Aufl. 2009)

D.H. Perkins; Introduction to High Energy Physics (Cambridge University Press 4. Aufl. 2000)

further literature will be given in the lecture