

Nuclear and Particle Physics

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

Version: 12.02.2014 AD

Course: Accelerator Mass Spectrometry

Lecturers: A. Dewald

Email: dewald@ikp.uni-koeln.de

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

Requirements for participation:

Basic Knowledge in Nuclear Physics

Type of module examinations:

One oral examination at the end of the module

Duration of the course:

1 semester

Aims of the course:

Introduction into the basic concepts and techniques of mass spectrometry and accelerator mass spectrometry (AMS) will be given. Selected applications from different research fields will be presented.

Contents of the course:

- Definitions and general aspects of mass spectrometry
- Mass spectrometers
- Ion sources
- Accelerators
- Detectors
- AMS facilities (layouts)
- Ion optics
- Isobar separation
- Selected applications in Archeology, Geo-Science and Environmental Science

Recommended literature:

C. Tuniz, J. R. Bird, D. Fink, G. F. Herzog, Accelerator Mass Spectrometry, CRC Press