

General Theory of Relativity / Quantum Field Theory

Module No.: MN-P-SP-GR-QFT, MN-P-PN-GR-QFT

Version: 31.10.2015 PN

Course: Theoretical Particle or Astrophysics

Lecturers: various

Email: zirnbauer@uni-koeln.de

Category	Type	Language	Teaching Hours	CP	Semester
Specialized Course	Lecture Course	English	variable	var	variable

Requirements for participation:

Variable; see below

Type of module examinations:

Written or oral examination and one oral examination at the end of the module

Duration of the course:

1 semester

Aims of the course:

This course header stands for an assembly of specialized courses that introduce the student to module-related topics in astrophysics or particle physics. The course may be any one of the following:

Contents of the course:

- **Advanced Astrophysics** (offered each winter term in Cologne, 4+2 hpw, 6 CP; needs B.Sc. physics)
- **Group Theory** (offered each winter term in Bonn, 3+2 hpw, 6 CP; needs quantum mechanics from B.Sc. physics)
- **Theoretical Particle Physics** (offered each winter term in Bonn, 3+2 hpw, 6 CP; needs Advanced Quantum Mechanics, Group Theory, and QFT I)
- **Advanced Theoretical Particle Physics** (offered each summer term in Bonn, 3+2 hpw, 6 CP; needs Theoretical Particle Physics)
- **Theoretical Astroparticle Physics** (offered each summer term in Bonn, 3+2 hpw, 6 CP; needs GR, QFT, and Theoretical Particle Physics)
- **Supersymmetry** (offered sporadically in Bonn, 3+1 hpw, 6 CP; needs QFT I)
- **Superstring Theory** (offered sporadically in Bonn, 3+2 hpw, 6 CP; needs high-level preparation including QFT I+II)

Note: only a maximum of 6 CP will be taken into account for each of the specialized lectures above.