

Theoretical Physics 5 - SS 2023

Advanced Quantum Mechanics

Lecturers :

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Website

<https://wwwth.kph.uni-mainz.de/16412-2/>

Lecture hours

Mo 10:00 - 12:00, Wed 10:00 - 12:00
(Lorentz room)

Klausur

03/08/2023

Overview

1. Non-relativistic Quantum Theory of Many-Particle Systems
17.04, 19.04, 24.04, 26.04, 03.05, 08.05
2. Relativistic Bosons : Klein-Gordon Theory
10.05, 15.05, 17.05
3. Relativistic Fermions : Dirac Theory
22.05, 24.05, 31.05, 05.06, 07.06, 12.06, 14.06, 19.06, 21.06
4. Quantum Theory of Radiation and Interaction with Matter (non-relativistic)
26.06, 28.06, 03.07, 05.07
5. Path Integral Quantization
10.07, 12.07, 17.07
6. Review
19.07

Literature

1. A. Fetter and J.D. Walecka :
Quantum theory of many-particle systems
(McGraw-Hill)
2. J.J. Sakurai :
Modern Quantum Mechanics
(AddisonWesley)
3. F. Mandl and G. Shaw :
Quantum Field Theory
(Wiley)
4. M.E. Peskin, D.V. Schroeder :
An Introduction to Quantum FieldTheory
(Westview)