

Theoretical Physics 5 - WS 2019/20

Advanced Quantum Mechanics

Lecturers :

Dr. Igor Danilkin (danilkin@uni-mainz.de)

Prof. Dr. Marc Vanderhaeghen (vandma00@uni-mainz.de)

Main assistant :

Slava Tsaran (viacheslav.tsaran@gmail.com)

Website

<https://wwwth.kph.uni-mainz.de/ws201920-theorie5/>

Lecture hours

Mo 10:00 - 12:00, Wed 10:00 - 12:00

(Lorentz room)

Overview

1. Non-relativistic Quantum Theory of Many-Particle Systems
2. Relativistic Bosons : Klein-Gordon Theory
3. Relativistic Fermions : Dirac Theory
4. Introduction to Relativistic Quantum Field Theory
5. Path Integral Quantization

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)