Theoretische Physik 3
Quantenmechanik
WS 2020/2021

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

Main assistant :
Oleksandra Deineka (deineka@uni-mainz.de)
Assistants :
Johannes Benjamin Backens (jbackens@students.uni-mainz.de)
Niklas Martin Keil (nikeil@students.uni-mainz.de)

Website

https://wwwth.kph.uni-mainz.de/theoretische-physik-3-quantum-physik/

Lecture hours

Mi 12:15 - 14:00 (online) Fr 8:15 - 10:00 (online)

Klausur

26/02/2021

Schedule

- **04/11, 06/11**
  wave function, statistical interpretation, probability, normalization, momentum, uncertainty principle, stationary states,
- **11/11, 13/11**
  infinite square well, harmonic oscillator
- **18/11, 20/11**
  free particle, wave packets, delta function potential
- **25/11, 27/11**
  finite square well and applications, WKB approximation
- **02/12, 04/12**
  Operator formalism
- **09/12, 11/12, 16/12**
  Schrödinger's cat and kittens
- **18/12, 06/01**
  Schrödinger equation in spherical coordinates (angular solution), angular momentum
- **08/01, 13/01**
  spherical potential well, hydrogen atom
- **15/01, 20/01**
  spin, EPR paradox, Bell's theorem
- **22/01, 27/01, 29/01**
  perturbation theory: time-independent
- **03/02, 05/02**
  perturbation theory: time-dependent
- **10/02, 12/02**
  quantum computing