
Quantum Field Theory 1

We are the product of quantum fluctuations in the very early universe.
Stephen Hawking

Time: Monday, 16:00 – 18:00
Thursday, 16:00 – 18:00
Location: Staudingerweg 9, Galilei Room (01.128)
Lecturer: Prof. Dr. Joachim Kopp (jkopp@uni-mainz.de)
Exercises: Malte Buschmann (buschmann@uni-mainz.de)
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Website: <https://www.staff.uni-mainz.de/jkopp/qft1-2016.html>

Topics

1. Classical field theory
2. Second quantization
3. The Klein-Gordon field
4. The Dirac field
5. Quantum electrodynamics
6. The path integral formalism

Prerequisites

1. Classical electrodynamics (Theoretical Physics 2)
2. Relativistic quantum mechanics (Theoretical Physics 3 and 5)

Literature

1. Michael Peskin, Daniel Schroeder, *An Introduction to Quantum Field Theory*
Westview Press, 1995, ISBN 0-201-50397-2
2. Mark Srednicki, *Quantum Field Theory*
Cambridge University Press, 2006, ISBN 978-0521864497