Introduction to String Theory SoSe 2015

Times:
Lectures:
Wednesday 11:00 - 12:30
Friday 11:00 - 11:44

Exercises:
Friday 11:45 - 12:30

Course homepage:
There will be a homepage. It may be found under: www.desy.de/~boels/

Contents should include this page, all exercises so far, rough idea of course contents so far, etc.

Instructor:
lecturer: Junior Professor Dr. Rutger Boels

E-mail: Rutger.Boels@desy.de
Office: @ DESY, building 2a, room 608
Telephone: 040 8998 2234

Feel free to email me with any questions. It might take me some time to respond though.

Book(s):
There is a book. The course will be mostly based on parts of:

Blumenhagen, Lüst, Theisen, "Basic Concepts of String Theory", Springer, 2013

We'll not discuss everything that is in this book. I want to stress I consider the content of the lectures and the exercises as the true basis of the exam. The content of the lectures will be tracked on the website.

There are many other books on string theory. Some are good, others are better left alone. Many subjects in string theory are only really useful for a handful of people, so it pays to be picky. A book I've been meaning to dig into deeper is Becker, Becker, Schwarz "String Theory and M-theory". However, I have no personal experience with it yet due to lack of time. In the same category of things-i-d-love-to-read-better: a set of lecture notes by David Tong, http://www.damtp.cam.ac.uk/user/tong/string.html.

A set of books I have a love-hate relationship with is Polchinski's two volumes on "String Theory". In this book it is sometimes not clear if the distance between two consecutive sentences requires a one line calculation or pages of research level mathematics. On the other hand, it contains an understanding and insight which is sometimes quite wonderful.

Specific subjects sometimes come with their own set of books. Two dimensional conformal field theory for instance is a vast subject, covered remarkably well in a book by Di Francesco, Mathieu and Seneschal aptly called 'conformal field theory'. At least, it does so in the sections I've read from it.

Any further suggestions are welcome!

Exercises:
There will be exercises, probably mostly from books. The exercises will be listed on the homepage, not later than the wednesday before.

Bonus:
You can earn a bonus. This can lead up to a 0.3 point increase on your exam. The bonus can be earned by handing in solutions to the exercises roughly two times during the course. Your solutions will be graded. A positive grade (roughly > 50% correct over all exercises) earns the bonus. The bonus will only count for an exam in the SoSe 2015.

Note: you are very welcome to work on the exercises in groups. Hand-ins however are only for *one person*! You need to demonstrate that *you* understand the problem as well as its solution. Too extensive similarities will not be tolerated.

Exam:
There will be an oral exam or a written exam, depending on numbers of students interested.