Computational Astrophysics

Mini-course for Studierendentage SS 2018

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This is a mini-course on computational astrophysics for the Studierendentage of the Summer Semester 2018. We will get to know a couple of numerical computational methods that are often used in astrophysics. These methods are, however, general enough that they are also useful for solving problems outside the field of astrophysics. I have chosen the astrophysical topics in such a way that they connect to some particularly active fields of astrophysics, but of course with an emphasis on my own interests: extrasolar planets and planet formation.

It will be a hands-on course: most of the stuff you will learn by doing it yourself. All exercises are formulated in Python, and any example code is in Python. If you insist, you can also use another language, but then I cannot make a guarantee that I can help you with the exercises if something goes wrong.

The goal of this lecture mini-series is to get a feeling for how to solve complex physical problems with a computer.