Welcome to the Advanced Physics Lab Course !

In the Wiki you will find the instructions of all experiments of the Advanced Physics Lab Course compactly structured.

The number of the experiments which you have to carry out is 8.
Some of the experiments will be completed at a fixed day of the week during the semester (some experiments, which, by technical reasons, cannot be operated on a weekly basis, will be performed in the first two weeks after the lectures).

Participation (minimum 50 %) in the accompanying seminar during the semester and delivering a presentation in this seminar is obligatory.

The instructions of the experiments have to be considered as a guideline for the preparation and execution of the experiments. The guideline consists of a short introduction into the theme of the experiment followed by a clearly arranged listing of the most important topics that you should master before the beginning of the experiment. The script refers only to the topics which should be prepared by a goal-oriented literature study. In the library you can find all books and literature listed in the introductory part. Moreover, in each experimental introduction all of the tasks that need to be executed are listed as well as special hints on how to perform the experiment and the data analysis.

The ability to gain the knowledge of a new field in a relatively short time by studying literature is very valuable. This ability is of fundamental importance to each physicist and needs to be trained. That is the idea of those scripts which reflect the experiences and thoughts of the supervisors. These scripts could require improvement from time to time due to the fact that the advanced lab course is in continuous evolution thanks to the steady development of the offer of experiments and the periodical changing of supervisors. Therefore we would like to ask all supervisors and students to gather experiences and improving suggestions and to discuss them by the end of the semester at the latest. This request refers not only to the script but also to each aspect of the advanced lab course.

We strongly wish that the advanced lab course fulfills the purpose of enriching the students with experimental experience and teaching them how to think in a physical way. On one hand it is important to perform the measurements properly and get good measurement results, but on the other hand it is also important to draw the proper physical conclusions from the data. We hope that the advanced lab course effectively trains these abilities. In this sense we wish you a successful participation in the advanced lab course.

The supervisors of the Advanced Physical Lab Course,
Ralph Püttner and Martin Weinelt

Berlin, October 2015