

Computational Statistical Physics FS 2024

Andreas Adelmann

General information

The coding project, which relates to the course topics, will constitute 100% of your final grade. The project grade will be determined by assessing the quality of your written project report, your performance in oral presentations (including responses to questions), and the quality of the code you have written. Projects are to be completed in groups of up to 5 members. Each member's contribution must be clearly indicated at the beginning of the final report.

Source code and reports

Your reports, not exceeding 10 pages, should adhere to the standard structure of scientific texts. Proper referencing is a crucial aspect of scientific practice and will be considered in the report's evaluation. Note: References and additional submitted code will not count towards the page limit. Your reports should include a declaration of originality. Plagiarism is a serious offence and will not be tolerated. Both the source code and the project report are to be submitted via the same GitLab repository and all presentations and the final report needs to be submitted to Moodle. Please set up an appropriate structure in your repository and describe it in a top-level README file. The deadline for submitting your code and report is 7 May 2024 (COB).

Presentations

The presentation schedule will be published on 7 May 2023. Upload your individual presentations to Moodle through the designated assignment one day before your scheduled presentation date. Note that we will download all presentations to a central computer for presentation purposes, ensuring adherence to our tight schedule.

Working as a group

Projects must be undertaken by groups of up to 5 students. In your report, clearly identify each group member's contributions, and name all members in the issue text/email that announces the project submission. Collaborative efforts are expected in coding, report writing, and presentation preparation.

Using IPPL as base for the project

IPPL (Independent Parallel Particle Layer) <https://github.com/IPPL-framework/ippl> is an open-source C++ library for developing performance-portable code for Eulerian, Lagrangian, or hybrid methods. The library is dimension-independent, performance-portable, and supports mixed precision.

We strongly suggest using the modern C++ library IPPL for your project. We will provide office hours for you to ask questions about IPPL and your project. This is also an opportunity to become an IPPL contributor, especially if your project is selected as an additional mini-app in our collection.