Discontinuous Galerkin Methods for Computational Mechanics

Project work: Instructions

Summer 2016

Lehrstuhl für Numerische Mechanik

The project work is part of the examination (50% weight of total grade). Register for the exam until Thursday, June 24, 9:00, on TUMonline.

You can select one of the following two tasks:

- Simulation of compressible inviscid fluid flow with the 2D Euler equations.
- Implementation of the acoustic wave equation.

Choose your favorite project, implement the requested methods and present the results in a written report (a few pages long). You are encouraged to discuss basic properties such as convergence (if possible) or other relevant numerical experiments characterizing the method. MATLAB code that you have written should be added as an appendix to the report (unmodified code from the course book needs not be listed).

The report must be handed in by June 24, 11:30, at the latest. You can hand in a printed version in room MW 1231 or a PDF document via email to `kronbichler@lnm.mw.tum.de` (file size should not exceed 10 MB). A confirmation email to acknowledge receipt of the report will be sent.

Grading of the exam

After correction of the reports, a short oral examination will be held where the implementation is discussed on a computer (approx. 8 minutes per student). The grade for the project depends on the quality of the report and the performance in the oral part.

Discussions between students regarding implementation and report are encouraged. However, every student must write an **individual report** and the reports will be individually graded. Please note on your report in case you have collaborated.

Project discussion with teacher

For project-related questions, you can book a 10 minutes slot with Martin Kronbichler (room MW 1231). Available time slots are Tuesday, June 14, 10:00–12:00 and Wednesday, June 15, 10:00–12:00 and 14:30–16:30. Please fill your name on the list that is pinned in front of MW 1231.