

Prüfungsprotokoll Mathematik

Fach: Scientific computing
Studiengang: Scientific computing

☐ Vordiplom
☐ Zwischenprüfung
☐ Diplom

☐ Bachelor
☒ Master

Prüfer/in: Fuhrmann

Beisitzer/in: Rene Kehl

Datum: 14/3/2018

Note: 1.0

Prüfungsdauer: 20'-25'

Anzahl der Kandidaten:

Vorbereitungszeit:

Literatur:

Beurteilung der Prüfung und des/r Prüfers/in:

Both of them were very nice and relaxed.

Fragen:

- Heat equation with homogenous Dirichlet boundary condition and how to solve it with P_1 finite element
 - explained Galerkin ~~form~~ and mentioned Sobolev spaces
 - asked about Lax-Milgram and Cea's Lemma
 - said some stuff about the simplex and the basis functions
 - a bit about going from local to global, interpolation

I said everything too fast so he asked

- Jacobi method
 - just said the basics. Precondition and converging
- Parallel programming
 - The two examples
 - shared / distributed memory
 - OpenMP, MPI
 - threads, processes, deadlock, mutex
 - asked what happens if two threads access simultaneously the same data. I said "I don't know", "Correct" he answered.