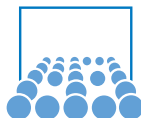


Seminar on Partitioned Fluid-Structure Interaction

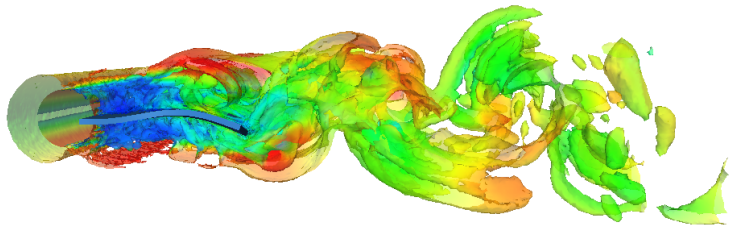
Preliminary Meeting

Benjamin R uth, Benjamin Uekermann

January 30, 2018



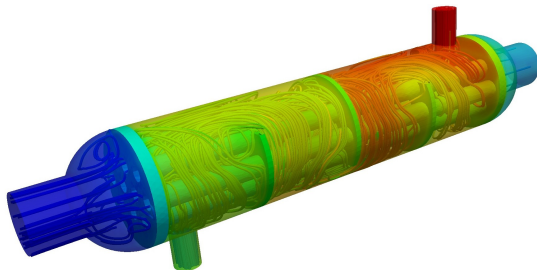
Examples



Examples

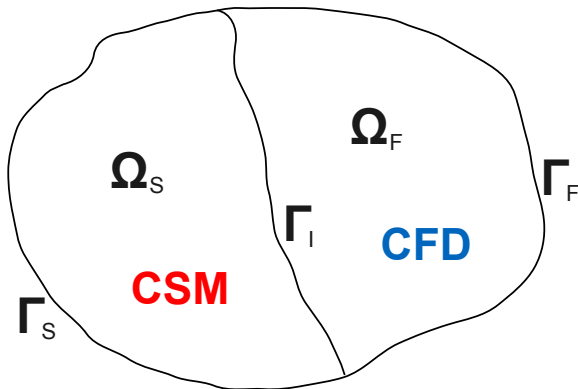


Examples



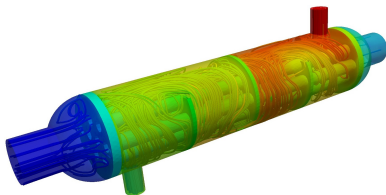
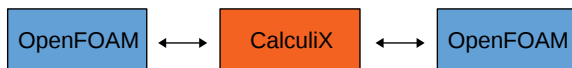
Domain

$$\Omega = \Omega_F \dot{\cup} \Omega_S, \Gamma_I = \Gamma_F \cap \Gamma_S$$



Partitioned Fluid-Structure Interaction

- Reuse of existing software
- Tailored numerics for every field
- We only operate on boundary conditions in an input-output fashion $F : d \mapsto f$, $S : f \mapsto d$



Necessary Prerequisites

- Good knowledge in numerical programming is mandatory
- Basic knowledge in CFD and/or CSM is recommended
- Also depends a bit on your topic

Block Seminar

First and second block

- Basic topics
- Start preparation after exams, on February 21
- Presentations: April 23 and 26
- Paper deadline: May 4

Third and fourth block

- Advanced topics, built upon basic topics
- Start preparation at the beginning of the lecture period, in April
- Presentations: June 28 and July 5
- Paper deadline: July 13

Rules

- Paper and talk, both mandatory (one fail all fail), 1:1 weight
- Talk should be 45 minutes + 10 minutes discussion
- We prepare a paper template
- Hard paper deadlines (11:59pm)
- You have to be present for all presentations (doctor's note necessary for absence)
- Good scientific practice!

Registration

- Via the matching tool (till Feb 14)
- Furthermore, write a mail to `uekerman@in.tum.de` (subject: “FSI Seminar Application”) with your three favourite topics (ordered) (till Feb 14)
- If only early or only late topics work for you, please let us know as well
- Deadline for de-registration: Feb 28 (otherwise 5.0)

Topics

- Theory
- Modelling
- Numerical Methods
- Algorithms
- Software
- Applications
- ... We tried to have implementation task in (almost) every topic