Meeting Minutes 07/04/2020

Group 1

May 15, 2020

1 RSEP Tutorial 2

- Titanium images are on Git, license grade, no attachment images

- Two microstructures: lamellar and globular microstructures

- Can work with composites or porous materials

- Report details added to Git

- Mostly graded on GitHub activity (65%) e.g. raising issues, commits, discussions etc.

- Report summarising everything we've done

- Report split into group and individual parts

- Group report: going over software, problem solved, technical report

- Individual report: reflective, what was our specific contribution, talk about what we did right/wrong in project, successful? Be critical

- Free format on the report

- Document meetings, minutes etc.

- Report due on 19th June

- Get sfepy examples running -¿ already done

- Gmsh, Pymesh

- Define nodes and elements

- In an image, each pixel is a square

- Can use image/pixels to create a list of nodes

- E.g. the corners of each pixel

- Elements are a bunch of nodes, can be done manually or with a python script

- Create a mesh that is compatible with sfepy

- See link on zoom meeting for layout of .vtk file

- Interested in a structured grid, look for format

- Best to use images that are given by Pratheek

- Can just do a simple diffusion problem, solving the diffusion equation

- Does not need to be too complex

- Noisy images cause problems in simulations

- The images provided are clean, does not require much preprocessing

- Do not need to put in the material parameters

- Getting the meshes to work is important

- Scalar diffusion equation could be considered or more complex ones e.g. thermal elasticity

- Can do a simulation in a region of interest of microstructure, not the entire image

- Finer mesh in the interesting areas, coarser mesh elsewhere

- Attend the 20th and 27th May workshops for attendance (impacts our mark)

- If any issues with meshing, contact Pratheek to go through a tutorial