# 17 Nov 2018 Meeting Minutes

Bijoy made a model that we will use for analysis in Abaqus

* It is currently a quarter model but we might want to consider using a half model (could be few enough nodes to still work with the educational Abaqus)
  + Straight forward to go all the way around
* Still needs to model the boundary conditions
  + The anchor points will be passed on dig 5 in the paper we found
* We will need to model loading and unloading to see if there will be a leak
  + We will model loading up to and down from different pressures
* We will model pressure plus bending (NOTE at one point we said bending only)
  + Linear analysis (unless we have more time at the end and want to go that extra mile)
* Mess will be refined
  + 8 node brick elements for flange/pipe SOLID 45 in the research paper
    - Currently 4 node quadrahedral
    - We want to use the 8 node brick element (to better match paper)
  + Gasket element INTER 195 was used in the research paper
    - Currently Standard C3D8
    - We will switch to gasket element in Abaqus
      * GK3D8

A paper doing similar research to what we are doing is in the repository.

* Helped us decide on the anchor points for the BC’s of our model
* Discusses different types of gaskets (we will use figure 3-b)
* This is the format that we are going to use for our paper

There are still some questions of how to exactly model the gasket and joint:

* Need to find details of using ring type joint
* Need to study two types of gaskets
  + What material we are going to use?
  + What ring type gasket will we use?
  + What curves from our references are we going to use?

Homework: Plan on a homework 5 after the holiday week

* If you have questions about 3 or 4 Sam can help
* If you have tips for 1 or 2 please share

## TODO for next week

Brian

* Look up ring type joint (closure and graph required and type of gasket [ring type joint & spiral gasket [oval ring gasket]). Figure it out and put it in model.

Sam

* Code up the 8 Node solid brick element and standard gasket element types in MATLAB
* Send out how to use GitHub Desktop (started)

CK

* Look up details of the spiral bound gasket and how to use it

Mike

* Write up the report (and format it) as material comes in
  + Also don’t be afraid to ask us to start providing drafts of background material or paragraphs about what we are doing that you can integrate into the paper. We don’t want to wrap up our analysis on the night before and force you to write it all in 12 hours.

Bijoy

* Finish up the model with BC’s
  + Won’t have the gasket material charts yet
* Will do a trial run to start getting results