MOOSE Project

- Three-part project
- Will upload input and output files to Moodle
- Will upload a final written report, 5-10 pages (including figures), times new roman, 12pt, 1.5 space, pdf
- Due April 21 – Friday last week of classes
- This is an individual project, but some collaboration is encouraged
- Part 1 is due Feb 24
  - just input/output submitted to moodle; 1 page report outlining results

MOOSE Project Part 1

- Fuel pin dimensions listed
- This is a 1-D problem, but I want your geometry to be set up in 2-D RZ
- Assume reasonable values for thermal conductivities, can assume constant k
- Outer cladding temperature: 600 K
- Mesh: something sufficiently converged
- Solve temperature profile for:
  - Steady-state: LHR = 350 W/cm^2
  - Compare against analytical solution
- Solve for centerline temperature vs time
  - Transient: LHR = 200*(1-EXP(-0.05*time))+150 for up to t=100