459.732 Numerical Methods in Rock Engineering

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Assignment #2 (6 October)

due by 10 October 2014

1.

Explain about 'Saint-Venant Principle' using numerical results conducted by COMSOL Multiphysics.

2.
Discuss the effect of 'mesh size' using numerical results conducted by COMSOL Multiphysics.

3.

Simulate a Brazilian Test using comsol and show the criterion of its applicability in terms of loading platen contact area.

4.

Simulate a uniaxial compressive test and show how important it is to have a flat surface. Discuss this in relation to ISRM suggested method.

5.

What would be the minimum or optimal thickness of specimen for thermal conductivity measurement using divided bar?