Chair for Computation in Engineering
Deparment of Civil, Geo and Environmental Engineering
Technical University of Munich

Adaptive Plasticity

Project Characteristics
Modeling:	★★☆☆☆
Mathematics:	★★★☆☆
Programming:	★★★★☆
Science:	★★★☆☆

Setting:

For many nonlinear problems the optimal mesh configuration changes continually throughout the deformation process, requiring successive mesh adaption during solution. For problems involving internal variables, accurate data transfer between meshes are essential for accurate computations.
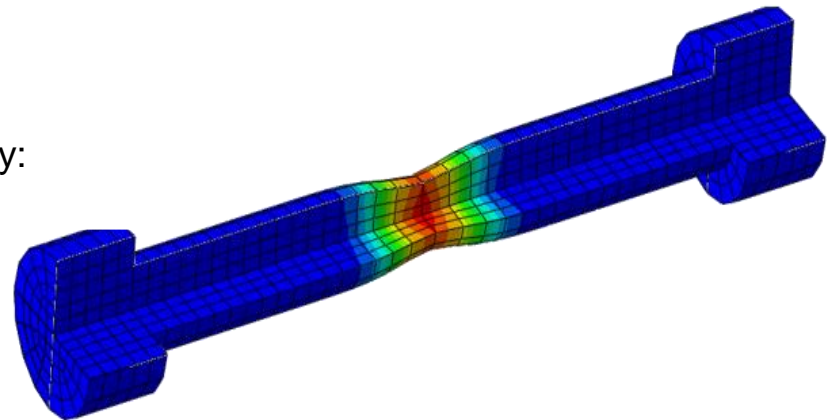
Your Tasks:

Extend a simple 1D adaptive matlab code for elasticity:

• Get familiar with the topic

• Implement a simple small strain elastoplastic model

• Implement and compare simple transfer operators

http://www.ssanalysis.co.uk/blog/metal-inelasticity-modelling-with-abaqus