

The COMSOL and Matlab Files are available on the Geothermal Data Repository (<https://gdr.openei.org/>). PlotStrainFromCOMSOL.mlx is a Matlab® data file containing the code for plotting strain data derived from COMSOL for this study in .csv format. This code detrends the data, generates waterfall plots, and applies a gauge length for the purpose of this investigation. A sample .csv file containing data from one of the many simulations is included and loaded into the Matlab script. This file (COMSOL_NanostrainExport_7.5E-5m_1500psi.csv) includes the strain data exported from COMSOL for the Model E simulation involving a fracture aperture of 7.5E-5 m and injection pressure of 1500 psi. Comments within the script offer instructions for use. COMSOL files containing the model for both sections of the study are also available. The COMSOL files available include Model A from the section about modeling strain signatures as an indicator of fracture connectivity (UtahFORGE_A) and the model used for the section about parametric modeling for hydraulic test design (UtahFORGE_E). To reduce the file size, the meshes and solutions are cleared. Both models are ready to run after rendering the mesh. The COMSOL and Matlab Files are also available as supplemental files to this PDF in the ProQuest Dissertations and Theses database.