

## **Error Bounds on the Rheological Structure**

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The subsurface rocks undergo different modes of deformation under varying pressure and temperature conditions. The transformation from brittle to ductile deformation is called brittle-ductile transition. Quantification of these requires the knowledge of the subsurface temperature distribution, strain rate, and material parameters. The subsurface temperatures have inherent uncertainty due to heat sources and thermal parameters the and the temperature along with its error structure have been first obtained and thereby the rheological profiles along with the error structure have quantified. The seismogenic depths along with its error bounds have been quantified for the North West Himalayan region. Simple graphical user interface (GUI) viewer has been developed for plotting the thermal structure as well as rheological profiles by giving the input controlling thermal parameters on the screen directly.