Structural Geology
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How to use the Calculations Excel file

This excel file contains spreadsheets that calculate the eigenvectors and eigenvalues of plane strain deformations.

The sheet "**Simple shea**r" is the simplest. It calculates the eigenvalues, principal strains (1+e1 and 1+e2) and the strain ratio R and the angle between the principal strain axis X and the shear plane.

The sheet "**Pure shear**" is similar for pure shear. The user enters values for kx (in red).

"**Subsimple shea**r" allows the user to mix simple and pure shear (gamma and kx). It also allows the input of a line and shows its new orientation and extension after deformation.

"**Wk-based 2D-strain**" is also for subsimple shear, but lets the user specify Wk and the shear strain (gamma). It also shows the deformation of a line.

"**Marker, ss, calc new orient**" calculates the new orientation of a passive marker that is deformed in a simple shear zone.

"**Marker, ss, calc shear strain**" calculates the shear strain where the change in orientation of a marker in a simple shear zone is known.