

VII. Kinematic analysis and strain

A. The basic movements

1. Translation
2. Rotation
3. Dilation
4. Distortion

B. Strain

1. Heterogeneous strain and homogeneous strain
2. Strain along lines
 - a) Changes in length (longitudinal strain)
 - b) Changes in angle (shear strain)
3. Strain ellipse
4. Strain ellipsoid
5. Strain axes

C. Deformation histories

1. Rotational and non-rotational deformation
2. Finite deformation and deformation rate
3. Coaxial and non-coaxial deformation
 - a) Pure strain
 - b) Simple shear