

geodynamic modeling challenges:

- 1-realistic physical properties of rocks
- 2-phase transformation , melting
- 3-fluid and melt transport in derforming system
- 4-geochemical processes
- 5-ultrahigh resolution(multi-scale grids,adaptive grids)
- 6-3D

geodynamic visualization challenges:

- 1-geology-friendliness
- 2-ultrahigh resolution
- 3-multiple-scales
- 4-multiple-aspects
- 5-3D

basic books:

- I. Donald L. Turcotte and Gerald Schubert, Geodynamics. Second edition. Cambridge University Press, 2002
- II. Giorgio Ranalli Rheology of the Earth. Kluwer Academic Publishers, 1995
- III. Leon Lapidus, George F. Pinder, Numerical Solution of Partial Differential Equations in Science and Engineering. John Wiley & Sons, 1999