

A high resolution geodynamo simulation using Yin-Yang grid

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Numerical simulation of geodynamo in a rotating spherical geometry will be presented. The simulation is performed on the Earth Simulator with its 512 node (4096 processors) and the code is based on our original spherical grid system, Yin-Yang grid. We will show the dynamo process under extreme conditions such as Rayleigh number $Ra=2 \times 10^8$ and Ekman number $Ek=2.3 \times 10^{-7}$ with our hand-made visualization software that is also based on the Yin-Yang grid.