



HAO Colloquium Series

(Refreshments served)

Speaker: Alexandre Fournier, IPGP

Time: 10:30–11:30 am

Date: Monday, December 10, 2012

Location: CG1-1210 South Auditorium

Title: Data assimilation in models of the geodynamo

Abstract:

Assimilating geomagnetic data in numerical models of Earth's core dynamics is a challenging problem. The information contained in the geomagnetic record is intrinsically restricted to the large scales of the poloidal field at the core-mantle boundary, and the control effectively exerted by this surface information on the state of Earth's core is an open question. This control depends mostly on the dynamical model chosen to describe the dynamics of Earth's core, and on the efficacy of the propagation of the observational information from the surface of the core downwards. After a general introduction on terrestrial magnetism and the observation of the Earth's magnetic field, I will report more specifically on recent efforts carried out to investigate the feasibility of resorting to three-dimensional, buoyancy-driven, numerical dynamo models for geomagnetic data assimilation practice.