Geodynamics Seminar

第360回ジオダイナミクスセミナー

Anisotropy in the Earth's inner core

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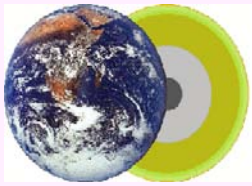
主催：愛媛大学地球深部ダイナミクス研究センター
日時：6/14（金）午後 4時30分～
場所：総合研究棟 4F 会議室



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Abstract

The Earth's inner-core is thought to be predominantly composed of a solid iron-nickel alloy contained with a small amount of light elements. According to seismological observations, it is widely accepted that the Earth's inner-core is elastically anisotropic: the compressional wave in the inner-core propagates 3~4% faster along its rotational axis than along the equatorial direction. A number of models on core dynamics have been proposed to explain the origin of the inner-core anisotropy, but all of them are based on the idea of the crystal preferred orientation of iron. Determination of the physical properties of iron alloys at the conditions of the Earth's core is, therefore, a fundamental issue for understanding the origin of the inner-core anisotropy, the thermal and dynamical state of the Earth's core. In this talk, I will discuss the chemical composition and the origin of the seismic anisotropy in the inner-core based on the experimental and theoretical studies on the phase relations, crystal structures, and the physical properties of iron alloys.

詳細は当センターホームページ: http://www.ehime-u.ac.jp/~grc/をご覧ください
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