Geodynamics Seminar

第334回ジオダイナミクスセミナー

Generation of ascending flows in the Big Mantle Wedge (BMW) beneath northeast Asia induced by retreat and stagnation of subducted slab

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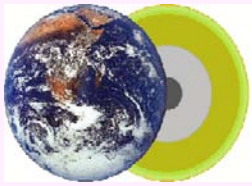
主催：愛媛大学地球深部ダイナミクス研究センター
日時：7/13（金）午後 4時30分～
場所：総合研究棟 4F 会議室



EHIME UNIVERSITY GRC GEODYNAMICS RESEARCH CENTER

Abstract

We conducted two-dimensional numerical experiments of mantle convection with imposed kinematic motions of cold slabs, in order to study the mechanism for the generation of ascending flows in the “Big Mantle Wedge” (BMW), which has been recently proposed in order to relate the stagnant Pacific slab with the intraplate volcanism in northeast Asia. Our calculations demonstrated that the BMW is expanded oceanward in response to the retreating motion of trench and slab, which strongly affects the flows in the region. In particular, the subducting and retreating motion of slab induces a local but strong circulation near the oceanward end (or a hinge) of the stagnant slab in the BMW. Our findings suggest that ascending flows in the BMW can be triggered most easily near the hinge of the stagnant slab, which is in good agreement with the occurrence of several active intraplate volcanoes above the stagnant Pacific slab.

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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