



Finestructures in the Kuroshio Current using seismic reflection data

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Kuroshio is an ocean current in the western Pacific Ocean that flows east of Taiwan and extends northeastward along the coast of southern Japan. Seismic reflection data perpendicular to the Kuroshio Current axis showed that finestructures having a horizontal scale of over 40 km exists and these finestructures are not transient features during two months. However because the finestructures along the Kuroshio Current axis (along the coast of southern Japan) were not revealed in the previous seismological studies, we operated new seismic survey and conducted 70 XCTD/XBT casts in September 2006. We observed several continuous reflections along the Kuroshio Current axis at the depths of 200-600m, in good agreement with strong gradient layers in XCTD/XBT profiles. Along-stream undulations of reflectors are observed, which may correspond to sub-surface eddies. Turner angle analysis suggests most of these layers are likely to be maintained or enhanced by double-diffusive processes. In this presentation, we show seismic profiles along and perpendicular to the Kuroshio Current axis and discuss its characteristics from the three-dimensional structure.