Distribution of total dissolved chromium in Pacific and Indian oceans

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Sampling and determination method

Seawater samples in Pacific Ocean have been taken in the cruise of KH-05-2 and those in Indian Ocean in the cruise of KH-09-5(ER). All samples have been taken from a CTD-CMS clean sampler through fiber filters and stored in LDPE bottles after acidification at pH 2. Total dissolved Cr (both Cr(III) and Cr(VI)) was preconcentrated as 8-quinolinol complex by solid phase extraction after the reduction of Cr(VI) to Cr(III), and then determined by GFAAS[1].

Results and discussion

Figure indicates the vertical distribution of total dissolved Cr at the stations along latitude 160 W in Pacific Ocean, and that at the stations in Indian Ocean. The profile at almost all stations indicates weak nutrient-type. There is no remarkable difference between vertical profile patterns. The average concentration in Pacific Ocean (7 nmol/L) is higher than that in Indian Ocean (4 nmol/L).

The relationship between the vertical cross section of the concentration of total dissolved Cr and other seawater parameters will be presented and discussed in the Session.

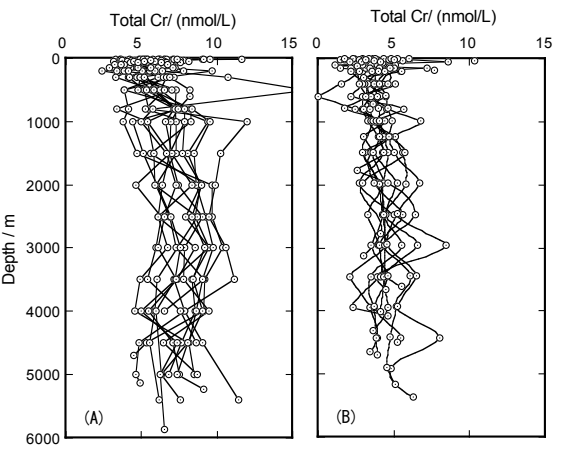

Fig. Vertical Profile of total dissolved Cr.
(A) Pacific Ocean, (B) Indian Ocean.

[1] K. Isshiki, Y. Sohrin, H. Karatani & E. Nakayama (1989) *Anal. Chim. Acta*, **224**, 55-64.