



## **Geochemistry and grain size analysis of cored sediments from Taiwan Strait and offshore southwestern Taiwan: a comparison**

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4 gravity cores, 10 box cores, and 23 surface sediments were collected from Taiwan Strait and offshore southwest Taiwan for the present study. Grain size analysis, mineralogy, geochemistry, and physical property were used to identify for the source of the sediments. The grain size analysis shows that the source of the coarse sediments is mainly from the terrestrial materials of Taiwan. Muddy sediments derived from Taiwan's rivers and from the coastal zone of China are variable in proportion. The results of grain size and clay mineral analysis show that these fine materials are essentially related to the supply of terrestrial materials from Taiwan Island.

The sediments in the southwest Taiwan offshore area are characterized by the enrichment of FeO, TiO<sub>2</sub>, Co, Cr, Cs, Li, Ni, Pb, Rb, Sc, Th, V, and Zn, but depletion in CaO, Na<sub>2</sub>O, Ba, Hf, Sr, Nb, Ta, U, Y, and Zr when compared with UCC (Taylor and McLennan, 1985). It is believed that concentrations of these trace elements are controlled by the contents of Fe-Mg minerals and clay minerals.

According to the analytical results of these core sediments, fine sediments distributed in the central part of Taiwan Strait are mostly derived from Taiwan Island, while coarse portions are affected by the recycled sedimentation.