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東海地域の河川が排出する細粒堆積物の鉛同位体比
Lead isotopic variations of fine particles discharged from rivers of Tokai area, Central Japan

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We report lead isotopic variations of fine fraction of river sediments of the Tonankai area in order to provide the reference data in resolving the provenance of hemipelagic sediment distributed in the Shikoku Basin. We targeted smaller particles than 10 μm. This grain size is important because they constitute the majority of hemipelagic sediments distributed on seafloor of the Shikoku Basin (Saitoh, 2014).

Lead isotope ratios widely differ by rivers. The most prominent contrast is recognized between the rivers draining the Izu-Honshu collision zone and the others. Isotopic ratios of the former, the Sagami, Sakawa, and Kano rivers are low (^{206}Pb/^{204}Pb: 18.15-18.3; ^{207}Pb/^{204}Pb: 15.55-15.59; ^{208}Pb/^{204}Pb: 38.1-38.4), while those of the latter are higher (^{206}Pb/^{204}Pb: 18.46-18.66; ^{207}Pb/^{204}Pb: 15.59-15.63; ^{208}Pb/^{204}Pb: 38.6-38.9) (Figure). The low ratios of the former are supposed to be the results of the contribution from the mafic rocks distributed around the collision zone. Contribution from the sedimentary rocks of accretionary complexes distributed in the watersheds must increase the isotopic ratios of the other rivers. Minor isotopic differences are supposed to be dependent on the age of accretionary comprex and types of other rocks distributed in watershed of each river. Isotopic comparison with these river sediments suggests that the sediments of the Shikou Basin deposited after 3Ma are mainly contributed from the Fuji, Abe, and Tenryu rivers.

Sr-Nd isotope ratios of river sediments will be also shown and discussed.

Reference

Saitoh, Y., 2014. Data report: grain size distribution of the late Cenozoic hemipelagic mud from Site C0011. In Henry, P., Kanamatsu, T., Moe, K., and the Expedition 333 Scientists, Proceedings of the Integrated Ocean Drilling Program 333: Tokyo (Integrated Ocean Drilling Program Management International, Inc.).

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