ペルム紀中期後期炭酸塩の放射起源Sr同位体とSr安定同位体変動
Stable and radiogenic strontium isotope variation ($\delta^{88}Sr$, $^{87}Sr/^{86}Sr$) in Middle-Upper Permian mid-oceanic paleo-atoll carbonates

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Stable strontium isotope ratios ($\delta^{88}Sr$) of the Capitanian (late Guadalupian) to Wuchiapingian (early Lopingian) carbonates were measured by TIMS, by correcting isotope fractionation during mass spectrometry with ^{87}Sr-^{84}Sr double spike. The studied carbonate section at Akasaka (Japan) in the Jurassic accretionary complex was originally deposited on a mid-Panthalassan paleo-seamount, which recorded a unique interval with extremely low $^{87}Sr/^{86}Sr$ values (the Permian minimum for ca. 5 m.y. throughout the entire Capitanian). We also analyzed the Wuchiapingian section at Lianshan in S. China, which was deposited on the shallow shelf. Both in $\delta^{88}Sr$ and radiogenic $^{87}Sr/^{86}Sr$ ratios, low values remained throughout the Guadalupian, whereas they increased rapidly in the Wujiapingian. The newly obtained $\delta^{88}Sr$ profile of Middle-Late Permian seawater positively correlated with that of $^{87}Sr/^{86}Sr$ ratio. As seawater $\delta^{88}Sr$ could sensitively reflect marine carbonate flux at the ocean floor, this correlation suggests that the valance between the Sr carbonate burial flux and Sr carbonate dissolution flux has changed sharply across the Guadalupian-Lopingian boundary. The Capitanian minimum and the following rapid increase in seawater $^{87}Sr/^{86}Sr$ likely reflected a major change in continental flux, probably reflecting the rapid deglaciation together with enhanced erosion/weathering of continental crusts on a global scale.

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