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[JJ] Evening Poster | M (Multidisciplinary and Interdisciplinary) | M-ZZ Others

## [M-ZZ41] Marine manganese deposits: from basic to applied sciences

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Wed. May 23, 2018 5:15 PM - 6:30 PM Poster Hall (International Exhibition Hall7, Makuhari Messe)

Marine manganese deposits include nodules and crusts of massive iron-manganese oxide aggregates associated with useful metals. The deposits are known as potential resources of cobalt, copper, nickel, rare earth elements, platinum, and tellurium. However, the controlling parameters on the regional and temporal variations in chemical and mineralogical composition have not been clarified yet. In this session, various factors in the growth of manganese oxides, enrichment and circulation of metals, paleoenvironment, and formation age of manganese deposits will be discussed from viewpoints of geology, mineralogy, paleocean sciences, geochemistry, microbiology, and sea floor engineering.

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## [MZZ41-P01] Mineral diversities of hydrogenetic ferromanganese crusts and nodules in the Northwestern Pacific sea floors.

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We, together with Kochi University, JAMSTEC, Geological Study of Japan, and JOGMEC, have been studying the parameters controlling the compositional and geological diversities of metal-rich hydrogenetic ferromanganese crusts and nodules in the Northwestern Pacific seafloors. Our results suggest ubiquitous distribution on outcropped rocks of the seamounts or deep sea basins of no or low sedimentation. The on-site observation and shore-based analyses of the deposits indicated abundant and common occurrences of hydrogenetic Fe-Mn oxide precipitates at a wide range of water depths between 1 - 6 km in the oceans. Our geological and geochemical studies also suggest that the deposits have been formed continuously since the Middle Miocene or older, building 10-cm thick piles of precipitates. We will also report the results of on-site exposure experiments and geochemical analyses.