

MIS009-P01

会場:コンベンションホール

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中生代層状チャートのサイクル層序 ; 天文学的年代スケールの確立と地球史イベントの解明に向けて

Establishing cyclostratigraphy of the Mesozoic bedded chert to solve the causes of global events

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Milankovitch cycles recorded in sedimentary rhythms provide a high-resolution and high-precision age model that is critical to the understanding of dynamics of global events. However, most of geologic records are not continuous and long enough to detect long period Milankovitch cycles. Bedded chert sequence consists of rhythmical alternations of chert and shale beds and its Milankovitch cycle origin was well established based on the similarity in hierarchy of cyclicities in bedded chert with that of periodicities of Milankovitch cycles (Ikeda et al, submitted). Late Paleozoic to Mesozoic bedded chert is widely found in Mesozoic accretionary complexes in circum-Pacific, and is considered to have accumulated continuously in a pelagic deep-sea environment for a period in excess of 100 m.y. (Matsuda and Isozaki, 1991). Thus, bedded chert has a high potential to serve as a template for a Mesozoic cyclostratigraphy. We have already established middle Triassic and lower Jurassic cyclostratigraphy of bedded chert and try to extend the record to the entire Mesozoic. The preliminary results of our research suggests the presence and importance of long periods (e.g. 3.6 m.y., 2.4 m.y., and 1.8 m.y.) Milankovitch cycles and their possible relation with anoxic events and faunal turnovers. It is also possible that the long periods Milankovitch cycles control third order sea level changes. Thus, establishing the continuous and high-resolution cyclostratigraphy overing the entire Mesozoic will open the new dimension in the study of the Earth System Dynamics. In this presentation, we will present the results of our recent works on cycle and event stratigraphy and its applications.

キーワード:チャート,ミランコビッチ,カオス,ジュラ紀,三畳紀,離心率

Keywords: Chert, Milankovitch, Chaos, Jurassic, Triassic, Eccentricity