

APE031-P09

Room:Convention Hall

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## 8-myrcycles of the sedimentary rhythms of Triassic-Jurassic lacustrine Newark Super-group and pelagic bedded chert

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The long-period cycles of up to several million years are known in paleoclimate records. However, due to the lack of up to several tens of million years long-term, continuous, and

high-resolution records, the mechanisms of long-period climate cycles are still remain uncertain. In this study, a pelagic bedded chert sequence in Japan and the lacustrine Newark Supergroup in eastern North America have been used to construct an astronomical time scale of approximately 30 myr. long during Triassic-Jurassic. These sequences show a hierarchy of the sedimentary rhythms of astronomical cycles origin including all of the main precession related periods (Ikeda et al., 2010; Olsen, 1986; Olsen and Kent, 1999), with the exception of an unexpected 8-myrcycles. The 8-myrcycles were nearly synchronous between the two sections based on the biostratigraphy, and also synchronous with the amplitude modulation of the approximately 2-myrcycles. The presence of the approximately 8-myrcycles in our sedimentary records would suggest the possible impact of the amplitude modulation of the approximately 2-myrcycle on the Earth system dynamics through non-linear interaction.

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