

# **CORRELATION OF THE UPPER DEVONIAN AND LOWER CARBONIFEROUS DEPOSITIONAL SEQUENCES IN DIFFERENT FACIES BELTS ON SOUTHERN MARGIN OF THE UPPER YANGTZE PLATFORM**

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The present study shows that different orders of sequences possess distinctive distribution and correlation in space. The present paper regards the distribution in space, especially in different facies belts, as a criterion for defining and recognizing the various orders of sequences. The sequence (third-order sequence) is probably global in nature, which may be discerned in various depositional facies belts on a continental margin and can be correlated over long distances, sometimes maybe worldwide. Four third-order sequences with average time span of 2 to 4.5 Ma may be recognized in the upper part of Upper Devonian (Strunian) and Lower Carboniferous Tournaisian on southern margin of the Upper Yangtze Platform. They may be easily distinguished in different facies belts, and seem to be synchronous deposits resulted from eustatic changes. The subsequences (fourth-order sequences with an optimum time duration of 0.5 to 1.5 Ma) are variable in distribution space, although some of them are probably also worldwide in distribution. A subsequence should be recognizable and correlatable within at least one facies belt. The higher-order sequences, including parasequences (fifth-order sequences with optimum time interval of 0.1 to 0.2 Ma) and microsequences (sixth-order sequences), are usually regional or local in distribution. Generally the correlation of parasequences and microsequences is difficult even within a single facies belt. Parasequences and microsequences may have reflected the longer and shorter Milankovitch cycles respectively. The widely used meter-scale cyclothems probably include various orders of sequences, and may represent parasequences and microsequences, even sequences, in different depositional facies belts.