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Sequence stratigraphy of the late Quaternary deposits in the central Yellow Sea

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High-resolution (Chirp and Sparker system) seismic profiles and piston core samples were analyzed to investigate the sequence stratigraphy of late Quaternary in the central Yellow Sea. Approximately 52,610 line-km data of chirp and sparker profiles was acquired. Along with seismic profiling, 16 piston core samples collected in 1998 and 1999. We also used a deep drill core to interpret the sedimentary sequences. In this study High-resolution seismic profiles and deep drill core show the complex sedimentary structure.

The late Quaternary deposits in the study area can be divided into five sedimentary units (units CY1, CY2, CY3, CY4, and CY5 from the oldest to youngest) bounded by an erosional surface and internal seismic reflectors: (1) regressive estuarine/deltaic deposits (unis CY1), (2) transgressive incised channel fill (unit CY2), (3) transgressive sand sheet (unit CY3), (4) transgressive sand ridges (unit CY4), and (5) prodelta/recent mud (unit CY5). Based on the interpretation of high-resolution seismic records and correlation with the YSDP-105 and piston cores, lower sequence (DI) correspond to the falling stage systems tract regarded as regressive estuarine or deltaic deposits (unit CY1), whereas upper sequence (DII) consists of a set of the transgressive (units CY2, CY3, and CY4) and highstand systems tract (unit CY5) formed since the last-glacial period.