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**A study on marine strata thickness of South Yellow Sea based on the latest aeromagnetic and airborne gravity data****Tong Jing**

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The South Yellow Sea is commonly assumed to be located in the northeast lower Yangtze block of the South China plate, and is bounded to the west by the Tanlu Fault, and to the north by the Sujiao–Qianliyan–Linjin orogenic belt, which is a large superposed basin composed of Paleozoic-Mesozoic marine sedimentary basin and Mesozoic-Cenozoic terrigenous sedimentary basin developed on the crystalline basement of pre-Sinian age. The Paleozoic-Mesozoic marine sedimentary strata formed and evolved starting from Jinning movement and ending with Yindosinian and Yanshanian movements, among which, Sinian, Cambrian, Ordovician, Carboniferous, Permian, Triassic strata have been developed. Over more than 50 years oil-gas investigation of SYSB, it is much clearer to know about the feature of terrigenous sedimentary basin, but the recognition on the thickness of Paleozoic-Mesozoic marine strata has not yet reached agreement for the lack of drilling data in Paleozoic age, which limits the progress of prospecting and investigation of oil-gas resources of the South Yellow Sea. The Paleozoic-Mesozoic marine strata of the South Yellow Sea had attracted increasing attention of scholars because of the effective seismic reflection of Paleozoic-Mesozoic marine strata. Extensive geological and geophysical investigations and research has been carried out recently. Currently, seismic prospecting is the main exploration tool. However, even sophisticated seismic data analysis, has failed to identify the distribution of complete marine strata of whole region, and more importantly, has been unable to clarify different aspects of its tectonic evolution stage. Many others studied marine sedimentary basin based on gravity and magnetic data, however, they mainly focused on the basement of basin but less for the marine strata distribution, and no one has systematically discussed the feature of Paleozoic-Mesozoic marine strata using aeromagnetic and aero gravity data. The study calculated the depth of upper and lower marine stratigraphic interface using the tangent method based on the latest acquired high precision aeromagnetic and airborne gravity data with constrain of drilling data covering the latitude of 31° to 37° and longitude of 120° to 124°. It is indicated that the Mesozoic-Paleozoic marine strata mainly existed in the Central and Wunansha uplift region with the maximum thickness up to 10 km, which has been proved to be the most prospective oil-gas area of the Southern Yellow Sea.

**Biography**

Tong Jing is an Engineer in Geophysics and a Doctoral student in China University of Geosciences. Her research interests are in aeromagnetic and airborne gravity data processing and geological interpretation in Aero Geophysical Survey and Remote Sensing Center for Land and Resources (AGRS), China.

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