

Formation and Evolution of the Xinglong Double Imbricate Fan, North Hebei, China

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There is a typical nappe developed at the western side of the Xinglong-Pingquan synclinorium in North Hebei, China. The nappe has a feature of triple structure. It is composed of upper imbricate fan, lower imbricate fan and underlay. There are different strata and deformation in every structure unit. The upper imbricate fan may be divided into five thrust sheets, which are separately composed of Archeozoic Era, Erathm, Changcheng System, Jixian System of Middle Proterozoic, Qingbaikou System of Upper Proterozoic and Cambrian and Ordovician Systems from south to north and are dismembered by subsidiary faults. All of the subsidiary faults are steep at the upper and lower at the lower. They gradually merge into the floor thrust F_1 downward. A group of thrusts that formed the lower imbricate fan developed in Carboniferous-Permian Systems. They are covered by the upper imbricate fan. The lower imbricate fan has different deformations from the upper imbricate fan. Structure of the underlay is relatively simple. Because of the typical triple structures of the Xinglong nappe, the authors named it as a double imbricate fan.