

## **THRUST AND EXHUMATION PROCESSES OF BOUNDING MOUNTAIN BELT: CONSTRAINED FROM SEDIMENT PROVENANCE ANALYSIS OF HEFEI BASIN, CHINA**

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Jurassic Hefei foreland basin is located in front of the North Huaiyang backland fold and thrust belt and to the north of the Dabie Mountains, China. The depositional history of the foreland basin is mainly controlled by thrust and surface processes within the North Huaiyang orogenic wedge and the sedimentary stratigraphy in the basin records the thrust and exhumation history of the bounding thrust belt. Lithic (or gravel) component analyses on Sanjianpu Formation and Fenghuangtai Formation of Jurassic in Hefei basin show that the provenance rock units of basin sediments are basement metamorphic complex, intrusive rocks, medium and low-grade metamorphic rocks, and sandy and muddy sedimentary rocks distributed along the bounding thrust belt. Lithic sequence units of the whole stratigraphic section can be divided into 2 lithic sequences and 7 sub-lithic sequences. The regular distribution and change of lithic fragments and gravels in lithic sequences represent that the basin bounding thrust belt underwent 2 thrust cycles and 7 thrust events and the thrust process of the North Huaiyang thrust belt was piggyback-style in the Middle-Late Jurassic. A lot of boulders and lithic fragments of gneiss, migmatite, granite, diorite filled in the foreland basin fully prove that the northern Dabie basement metamorphic complex distributed in back of the North Huaiyang belt was exhumed and the North Huaiyang or the northern Dabie Mountains developed a lot of medium and acidic intrusive rocks on the earth's surface in Middle and Late Jurassic.