

# **TECTONIC ANALYSIS OF FORELAND FOLD-THRUST BELTS AND ITS APPLICATION TO OROGENIC TEMPORAL-SPATIAL ANALYSES**

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Foreland fold-thrust belts record important information of the collage of the continental blocks and other blocks. The tectonic vergence of foreland fold-thrust belts is one of the most important parameters to constrain the temporal-spatial character of orogenesis, including various kinds of elements which can be determined by means of multidisciplinary investigations. Among them are the opposite direction of the passive margin dipping direction, the statistic direction of paleocurrent direction in the slope turbidite, the opposite direction of the statistic direction of paleocurrent direction in the sediments in foreland basin, the propagation direction of the foreland basin, the systematically main thrust direction, the vergent direction of folds, the structural style zonation polarity, the decreasing direction of inversion ratios, the decreasing direction of shortening ratios, the propagation of Coulomb wedge, and the decreasing direction of the Flinn parameters of Indicatrice Ellipsoid of Vitrinite Reflectance Ratios and the maximum Vitrinite Reflectance. The age of the latest pelagic stratum of passive margin involved in folding and thrusting provides a constraint for the start time period of tectonic collage, the age of the earliest molasse sediments gives a hint of closure of an earlier existed ocean and starting of foreland deformation, and the age of the latest molasse sediments involved in folding and thrusting provides a judgement for the end time period of foreland fold-thrusting deformation. The application of this approach have been used as constraining the temporal-spatial geodynamic evolution of South China, in which various blocks were distributed as an archipelago before collapse of the basins, and the final amalgamation of this archipelago and those blocks from Gondwana in Early Mesozoic gave rise to the Late-Mesozoic multiple-block scenario of South China.