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论文

由GPS观测结果推断中国大陆活动构造边界

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摘要 利用“中国地壳运动观测网络”基本网1998年和2000年两期观测数据,得到分布在全国各构造块体上的79个GPS观测站速度场，对中国大陆主要活动构造块体间的相对运动显著性进行了分析和检验. 分析结果表明，西部活动构造块体的边界有较明显的相对运动，而东部运动不明显. 根据分析得到的活动边界，将中国大陆归并为11个活动块体，逐一计算了这些块体边界的活动量大小，确定了它们最新活动的方式.

关键词 构造块体 形变 GPS观测 松弛解 中国大陆

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DOI:

ACTIVE TECTONIC BOUNDARIES OF THE CHINA MAINLAND INFERRED FROM GPS OBSERVATIONS

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Abstract We use velocity fields at 79 GPS stations across the China Mainland to analyze the relative movement and determine activities on the boundary zones between tectonic blocks. The velocity fields are derived from the observational data of the “Crustal Movement Observation Network of China” (CMONOC) that were acquired over two periods of Aug. 1998 and Jun. 2000, respectively. The results show that there are significant relative motions along the boundaries in western China. Contrasted with the western China, significant relative motion is not found in eastern China. Based on the analysis results of the active boundaries, the China Mainland can be re divided into 11 active blocks. The movement amounts and patterns between these active blocks are calculated.

Key words Tectonic block;Deformation;GPS observation;Relaxation solution;China Mainland.

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