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新生地震构造带——马边地震构造带最新构造变形样式的初步研究 [点此下载全文](#)

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摘要:

以雷波地区为例, 通过野外地质地貌调查, 结合探槽技术以及年代测试结果, 获得了有关马边地震构造带最新构造变形样式及其性质的初步认识。研究表明: 马边地震构造带内的雷波地区存在一条北东东向雷波断裂带, 它断错的最新地层时代在40ka左右, 属晚更新世活动断裂; 在活动性质上, 为一条以右旋走滑运动为主的断裂。北北西向玛瑙断裂在第四纪风化壳中存在两次突然位错事件, 在剖面上的错距分别为0.5m和> 0.7 m; 最新错动面产状陡立, 存在水平左旋位错的构造地貌证据。马边地震构造带上北东东向断裂与北北西断裂不是一种从属关系, 而是在现代构造应力场条件下两组呈共轭关系的剪切断裂, 它们代表了马边地震构造带最新构造变形样式, 具新生性。马边地震构造带的破坏性地震以中强地震为主, 具有频度高、成带性差等特点, 这符合共轭状构造变形样式可能引起的地震活动特征。马边地震构造带位于青藏高原东缘南部, 初步分析表明: 一种受重力作用控制的中下地壳塑性流展模型, 可以对该地区包括大凉山断裂带、安宁河断裂带以及鲜水河断裂带在内的断裂构造的活动习性做出较合理的解释。伴随着高原内部中下地壳物质持续向外流展, 高原边界向外扩张形成新的边界, 并表现为一条新生地震构造带。

关键词: [马边地震构造带](#) [共轭关系](#) [新生地震构造带](#) [中下地壳塑性流展](#)

A New Seismotectonic Belt: Features of the Latest Structural Deformation Style in the Mabian Seismotectonic Zone [Download Fulltext](#)

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Abstract:

By using the Leibo area as an example, a basic understanding of the latest deformation style in the Mabian seismotectonic belt has been obtained, based on the geologic and geomorphologic survey, and combined with trench technology and dating. The research results demonstrate the existence of a NEE trending Leibo fault zone in the Leibo area. A faulted stratrum age is about 40 ka. The fault is a dextral slip and active in late pleistocene. The NNW trending Manao fault exposes the Quaternary weathering crust, from which two displacement events can be recognized. Their displacement offsets are 0.5m and >0.7m in sections respectively. A steep plane of the offset provides the evidence of horizontal sinistral slip. The NEE and NNW trending faults in the Mabian seismic zone belong to one pair of conjugate shear faults in the modern tectonic stress field, representing the latest deformation style of the Mabian seismotectonic zone. The disastrous earthquakes in the Mabian seismotectonic zone are characterized by moderate magnitudes, high frequency and weak zoning, and these are in agreement with features of earthquakes caused by conjugate tectonic frame. The Mabian seismotectonic zone is situated at the southern section of the eastern margin of the Tibetan Plateau. The research further shows that a ductile flow model in the middle lower crust, controlled by gravity, can give a reasonable explanation about the active habits of faults, including the Dalianshan fault zone, Anninghe fault zone and Xianshuihe fault zone. With a continuous flow of the middle lower crustal material inside the Tibetan Plateau, the Plateau boundary spread gradually outwards and a new boundary formed. Thus the boundary represents a newly formed seismotectonic belt.

Keywords: [Mabian seismotectonic zone](#) [conjugate relationship](#) [new seismotectonic belt](#) [ductile flow in middle lower crust](#)

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