REGIONAL SEISMICITY CHARACTERS BEFORE AND AFTER THE MANI *M*s7.5 EARTHQUAKE AND ITS FAR-FIELD PRECURSORS

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Abstract: Regional seismicity characters before and after the Main *M*s 7.5 earthquake on Nov. 8, 1997 and its far-field precursors are analyzed and studied. The results show that before the earthquake, a gap of $M_S \geqslant 5.0$ earthquakes has been formed in the south of the epicenter and frequency of $M_L \geqslant 4.0$ earthquake along Zangbei seismic zone decreased; Ground stress of Delingha station which is to the east of the epicenter and 940 km distant from it and groundwater temperature of Geermu station which is about 600 km distant from the epicenter have shows of short and impending anomalies. The background of the earthquake and stress field adjustment after the event are approached.

Key words: **Regional seismicity character; Far-field precursor; Mani earthquake**

太阳活动与发震断层走向

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在太阳活动峰年, 中国大陆内部和蒙古国内的近东西向断层易于发生 8 级和 8 级以上大震, 7.5 级以上大震也有类似情况, 而 7 级左右地震则此情况不明显. 其物理解释如下. 特大地震发生前近东西向震源断层面上预滑幅度和预滑面积大, 因之预滑导致的升温幅度大. 对于东西向发震断层来说, 这个预滑升温面与磁暴的水平强度方向近于垂直, 该水平强度的剧烈变化所产生的涡电流较大, 此涡电流使预滑面再升温并使摩擦阻力减小, 遂使 7.5 级以上大震易于在太阳活动峰年发生. 至于近南北向的发震断层, 因其预滑增温面与磁暴的水平强度方向斜交或平行, 所以产生的涡电流较小, 故发震时间受磁暴的影响较弱, 即受太阳活动峰年制约的程度较弱.

RELATION BETWEEN SOLAR ACTIVITY AND STRIKE OF SEISMOGENIC FAULT

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