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Stress Level Estimation According to Principle Axes Rotation of Stress Field Before and After Large Earthquake and Stress Drop

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In order to get deviatoric stress level, the analytic formula is derived according to rotation of stress filed before and after strike slip type earthquake and the stress drop of the earthquake. The limitation of formula is analyzed. It is analyzed that the ratio of deviatoric stress level and stress drop of earthquake changes according to the strike angle of seismic fault and principal pressure axes of deviatoric stress field and rotation angle of principal pressure axes. The importance of the formula is discussed. This method is applied in Homestead valley patch of Landers earthquake, the deviatoric stress level is estimated. Otherwise, I have given the methods to evaluate the stress level of any type of faulting if we know the stress field rotation before and after the earthquake.