

## Analysis Stress Field Heterogeneity by Using Logging Data

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In general, it is considered that underground stress field is almost homogeneous. Thus stress state, which is measured locally, is identified as representative stress in whole area. However, it can be predicted that stress state is complicated around discontinuities like fault. So I tried to analyze how stress state is fluctuated around fault by logging data at Nankai Trough. I estimated principle stress direction and range of that magnitude from borehole failures.

I found that principle stress direction is rotated around fault. Maximum stress direction is rotated to parallel with surface of fault outside of fault zone, where is softer than around rock, and rotated to normal to the surface inside. And magnitude of stress is increasing outside of fault zone, and decrease inside. And it can be considered that such fluctuation of stress state is caused by difference of rock properties between outside and inside of fault.

Keywords: Stress, logging, Nankai Trough, LWD, borehole breakout