

Cathodeluminescence images of healed cracks and their orientation in the granitic rocks along the Nojima Fault, Awaji Island

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Healed cracks in feldspars are easily observed under the cathodeluminescence using Luminoscope. We examined density and orientation of healed cracks in K-feldspar in the granitic rocks along the Nojima Fault. Oriented granitic samples were collected from two routes, Nojima Okawa route and Nojima Hikinoura route, along the road nearly vertical to the Nojima Fault. Density of the healed cracks are not related with the distance from the fault within about 1.1 km. At a distance from the fault, the orientation of the healed cracks dominates NE-SW and N-S with minor NW-SE. On the other hand, E-W orientation is dominant within 100m from the fault. The NE-SW cracks probably coincide with the trend of the maximum stress axis which makes fault movement dextral. The N-S cracks which is subparallel to the fault presumably associated with E-W extensional event. The E-W cracks only observed near the fault also suggest the maximum stress axis which presumably occurs just after the ancient seismic activities along the Nojima Fault.