ESR Analysis of Thermal History of the Nojima Fault gouge

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A boring core sample from the Nojima Fault which moved at the Kobe earthquake in 1995, was studied by ESR to survey thermal history of fault plane surface. The paramagnetic defects of E' centers and Al centers in quartz were measured and the profile of concentration of defects in the core showed decrement at the fault plane surface. Calculation of thermal annealing assuming frictional heat was employed to explain the distribution theoretically. The condition of ESR fault dating was also discussed by the model.