AOGS 2005

Detection of Faulting Events using Physical and Geochemical Proxies from the Holocene Shallow Marine Sediments Covering the Kuwana Fault, Central Japan.

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Six probable and one possible activities of the Kuwana fault were identified as the stepwise changes in the depositional rates and the altitudinal difference between the paired depositional curves of shallow marine sediment cores from the hanging wall (No.275) and footwall (No.350) of the fault in the last 7,000 years (Naruhashi et al., 2004, 2005).

In these faulting horizons ("horizontal lines" in Fig.1), sudden changes in electric conductivity, magnetic susceptibilities and C/N ratios are observed. And these proxies gradually change upward in the fallowing units ("gradational bands" in Fig.1). These changes probably indicate the co-seismic environmental change and post-seismic burying process in the footwall of submarine reverse fault. Time rag of burial events between the coring sites in proportion to the distance from the fault scarp can be interpreted as the progradation of the sediments from the fault side to far side. Above mentioned evidences show that the physical and chemical compositions of sediments may become a hopeful proxies of faulting events. Two older possible faulting event horizons can be recognized using the proposed proxies (Fig.1).

Keywords: Depositional rate; Shallow marine sediments; the Kuwana Fault; EC, Magnetic susceptibility.

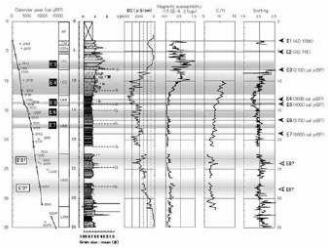

Figure 1. Changes of proxies and depositional curve in No.200 core.

References

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