

Deep Low Frequency Earthquakes Preceded the 2000 Tottori-ken Seibu Earthquake

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Deep low frequency (DLF) earthquakes were observed before the occurrence of the 2000 Tottori-ken Seibu Earthquake beneath its focal region. Five DLF events were detected within 3 years prior to the Tottori-ken Seibu Earthquake by JMA and DPRI.

These DLF events were located at about 30 km depth and exhibit following features: (1) dominant frequency is around 2 Hz - 4 Hz, (2) S-wave amplitude is several times larger than that of P-wave, and (3) higher frequency components superimposed on the P-wave part.

We preliminarily investigated the focal mechanism of the latest DLF event (2000/10/06 04:27 JST) using the amplitude ratios of S to P waves. Amplitude ratios show the intermediate value of those expected from single force type and double couple type source mechanisms.