

大地震前のラドン濃度の異常変化

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Anomalous changes of radon concentration before great earthquakes

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The atmospheric radon concentration over Ashiya fault began to increase unusually from early in Nov. 1994, showed maxima from late in Dec. 1994 to 04 JST, Jan. 17, 1995 just before the M7.2 Hyogoken Nanbu earthquake of Jan. 17, and rapidly decreased to the previous level after the earthquake onset (Yasuoka and Shinogi, 1997). The radon concentration in ground water also increased gradually after Oct. 1994, had

a maximum on Jan. 8, 1995, and decreased after it (Igarashi et al., 1995). The radon concentration in ground water at Antung hot spring in Taiwan began to decrease on Oct. 6

, 2003, had a minimum on Nov. 20 before the M6.8 Taiwan Chengkung earthquake of Dec. 10, 2003, increased after Nov. 20, and returned to the previous value 6 days before the earthquake onset (Kuo et al., 2006). This is similar to the 1978 Izu-Oshima-Kinkai earthquake (Wakita et al., 1980). Radon ions consist of radon

daughter nuclides of Rn-222, Po-218, Pb-214, Bi-214, and Po-214. Since gamma rays of 352 and 245 keV are emitted from Pb-214 and those of 609 keV, and 1.764 MeV from Bi-214, respectively. Gamma ray observations from radon ions by air born or satellite born gamma ray spectrometer of 300 keV - 2 MeV are useful for short term earthquake prediction.