Monitoring of crustal activity by gamma ray measurements on the ground(Part 3)-Repeated travelling survey by train and automobile-

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Stress concentration due to deformation of the crust may generate highly compressed fluids within cracks in the rocks. Those fluids tend to migrate upwards through crack system in the crust. Radon gass is one of such fluids and may be discharged in response to the compression of fluids within the crust. The radon gass concentration in the air is one of important indicators of the crustal activity. In order to grasp a rough estimation of the radon discharge activity, repeated survey of gamma ray indicating radon gass in the air has been conducted travelling by train and automobile. The instrument used for this purpose is the RE-100 scintillation counter, which enables to continuously record two bands in the gamma ray spectra corresponding to 214Bi and 40K. The latter band is utilized for estimating background spectra around the former band of radon indicator.On the route by Shinkansen train, a high emmision of radon at around Kyoto has been frequently detected at a rate of 21% for the 21 trials during 5 years. A precursory emmision has been found at the source region of the 2004 Niigata-Chuetsu earthquake of M6.8 on the highway route during one year before the shock.