Measurement of the radon density in the atmosphere at Okayama, Kochi, Choshi and Kiyosumi

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An increase of the radon in underground water at Nishinomiya City[1] and an increase of the radon in atmosphere[2] at the southern part of Hyogo Prefecture earthquake in 1995 were reported. Moreover, in the case of Tohoku Region Pacific Coast Earthquake, the data of the exhaust air monitor in the radiation facility of Fukushima Medical College (Fukushima) has been reported that the peak duration was long, and the peak decreased rapidly before the earthquake[3].

On the other hand, a PIN photodiode have been developed for high sensitive alpha detector, and used in Super-Kamiokande[4]. Two years ago, we made an instrument to measure atmospheric radon, using PIN photodiode. We used a Si PIN photodiode as detector, S3204-09 (Unsealed), supplied by Hamamatsu Photonics K.K. We constructed the radon detection instrument, using an aluminum pot as air container, H4083 as charge amplifier, C4900-01 as High voltage power supply module, a pulse shape amplifier with 10 micro-sec time constant, a Multi-Channel Analyzer (MCA-LiteN), and a Personal computer as data analysis. Alpha spectra of atmosphere showed 4 peaks, ^{218}Po, ^{214}Po and ^{210}Po of U series, and ^{212}Po of Th series.

Last year we newly set up these instruments at Kochi, Choshi, and Kiyosumi. This time we will report results of Kochi, Choshi, and Kiyosumi for about one year. We will also report result of Okayama for two years.

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