

Importance of noble gas monitoring in CTBT verification technology and observation results in Takasaki radionuclide monitoring station

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Radionuclide monitoring for CTBT verification is the only way to judge whether the target explosion event was a nuclear test. Among the radionuclides produced by the nuclear explosion, the noble gases are particularly important because they are inert and more likely to leak to the ground rather than other substances in an underground nuclear test. Only 4 radioxenon isotopes as the noble gases are monitored for the CTBT verification. After the first nuclear test of North Korea in October 2006, a radioxenon monitoring system installed at the Takasaki radionuclide monitoring station in Japan and the radioxenon monitoring has been carried out since January 2007. We report on the past observation results of the radioxenon at the Takasaki radionuclide monitoring station and the characteristics of radioxenon background.

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