

Detection of Artificial Radionuclides in CTBT Radionuclide Stations

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JAEA as Japanese NDC-2 is in charge of monitoring radionuclide related to CTBT and performs analysis of radionuclide data and Atmospheric Transport Modelling (ATM) simulation to investigate the diffusion of radioactive plume. About two months later after the third nuclear test in DPRK on 12 February 2013 (DPRK-3), xenon-133 and xenon-131m were detected simultaneously far beyond normal background level of the activity concentration at the CTBT Takasaki station in Japan. From the aspect of isotope ratio and the result of ATM simulation, it is highly possible that these radioxenon isotopes are originated from DPRK-3. And there were detections of barium-140 and lanthanum-140 at the CTBT Okinawa station in Japan in 2010, and ruthenium-106 in several CTBT stations in Eurasia in 2017. We report on these detections of artificial radionuclides in CTBT radionuclide stations.