

## IMS radionuclide monitoring after the announced nuclear test of the DPRK on 3 September 2017

Pierre Bourgouin, Jolanta Kusmierczyk-Michulec, Martin Kalinowski, Liu Boxue, Abdelhakim Gheddou, Franziska Klingberg, Ari-Pekka Leppänen, Michael Schoeppner, Robert Werzi, and Jun Wang  
International Data Centre, Comprehensive Nuclear-Test-Ban Treaty Organization, Austria (pierre.bourgouin@ctbto.org)

The International Monitoring System (IMS) developed by the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) is a global system of monitoring stations, using four complementary technologies: seismic, hydroacoustic, infrasound and radionuclide. The radionuclide network comprises 80 stations, out of which 40 are to be equipped with noble gas systems. The aim of radionuclide stations is a global monitoring of radioactive aerosols, radioactive noble gases and atmospheric transport modelling (ATM). To investigate the transport of radionuclide emissions, the Provisional Technical Secretariat (PTS) operates an Atmospheric Transport Modelling (ATM) system based on the Lagrangian Particle Dispersion Model FLEXPART. The air mass trajectory provides a “link” between a radionuclide release and a detection confirmed by radionuclide measurements. The aim of this study is to demonstrate the RN analysis and the application of ATM to investigate the episodes of elevated levels of radionuclides observed by IMS stations after the sixth nuclear test, announced by the Democratic People’s Republic of Korea (DPRK) at the Punggye-ri Nuclear Test Site on 3 September 2017. A comparison to the previous tests will be presented.