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result of DPRK's nuclear test using Korea Meteorological Administration(KMA) infrasound network

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KMA has been operating infrasound array stations at Cheorwon(CW) and Yanggu(YG) since 2011. KMA's infrasound stations successfully detected the azimuthal directions of the arrivals of the infrasound signals generated from DPRK's underground nuclear explosions. Recently, we tested ray tracing simulation of infrasound wave propagation in the atmosphere generated from the calculation methods of Ray tracing method, Normal mode method, Parabolic equation method. Analysis results from 4th to 6th DPRK's tests of ray tracing simulation using KMA's atmospheric data and numerical simulation results pointed out proper azimuthal directions from test site to CW and YG. KMA's mission is to detect precise azimuthal direction and origin time generated from DPRK's explosion, ICBM missile launching and Nuclear test. Since current network is located in eastern part of DMZ(demilitarized zone) to monitor DPRK's nuclear test, three new infrasound arrays will be installed at western part of DMZ in 2019 to fill the gap of monitoring area and increase detection rate. Currently, we are finding the potential sites to deploy the sensors which are made up array networks and to find proper configurations to improve detection rate. Installing the sensors that meet the CTBTO's standard regulations and find optimal wind-noise reducing systems are also important.

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