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## of 2020 Taal volcano eruption on Lead-212 detection of CTBTO RN52 Station

As part of its commitment to the Comprehensive Nuclear-Test-Ban Treaty (CTBT), the Philippines started the operation of its radionuclide station RN52 at Tanay in 2005 under the International Monitoring System (IMS). The station can detect not only anthropogenic radionuclides which may indicate existence of nuclear explosions, but also natural radionuclides such as Lead-212. Lead-212 is normally produced from the decay of Radon-220 emanating from the Earth's crust, but it can also be generated through volcanic eruptions due to the released magma. The increase in Lead-212 has been reported in past volcanic eruptions, such as the 2000 eruption of Miyake-jime volcano and 2004 eruption of Asama volcano which are both located in Japan. The Taal volcano, which is located approximately 70 km southwest of the RN52 Station, erupted on 12 January 2020 which may have released products containing Lead-212. In this study, the effect of the 2020 Taal volcano eruption on the Lead-212 detection of the RN52 Station was determined using statistical analysis and other relevant methods.

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