

Global Appearance of Cs137 in IMS Samples and the Major Sources for Repeating Observations at the Same Station

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Radiocesium (Cs-137) is one of the by-products of nuclear fission processes in nuclear reactors and nuclear weapons testing. The deposits of Cs-137 on the ground are resuspended into the atmosphere by different mechanisms like strong winds and forest fires. The major sources can be accidents from nuclear reactors, such as the Chernobyl power plant accident and Fukushima as well as historic nuclear weapons tests in the atmosphere that occurred mainly from 1952 until 1962. This study aims at assessing the global appearance of Cs-137 in IMS samples of more than two decades and identification of major sources for repeating observations at the same station. Frequency comparison before and after Fukushima as well as isotopic ratios of Cs-137 and Cs-134 will be performed. Moreover, further analysis on Atmospheric Transport Modelling (ATM) with Web connected graphic engine (Web grape software) for source location detection will be performed for backtracking the source of the detected Cs-137, identification of the potential source region of the release as well as discriminating the source of such release, whether it is from nuclear testing or any other nuclear facilities.

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Promotional text

For effective nuclear explosion monitoring it is important to understand the observed background of CTBT-relevant radionuclides. In this presentation the global appearance of Cs-137 in IMS samples of more than two decades will be assessed and the major sources will be identified

Oral preference format

in-person

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