

## **Estimation of xenon background for the IMS stations located in the Pacific Ocean**

In the process of verification whether a given detection can be caused by an event like a nuclear explosion, the knowledge about civil sources like nuclear power plants or isotope production facilities is extremely important because they contribute to the background signal. To estimate the xenon background the Atmospheric Transport Modelling (ATM) results were combined with Xe-133 observations. The study period covers 9 months, from April to December 2014. This study shows the monthly changes in the Xe-133 background for 3 IMS stations: JPX38 in Takasaki, Japan, USX77 in Wake Island and USX79 in Oahu, Hawaii. It is demonstrated that NPP emissions can significantly contribute to the Xe-133 measurements even at remote locations like IMS stations USX77 in Wake Island or USX79 in Oahu, Hawaii.

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