ID: Type: **Poster**

T2.2-P12. Inverse modelling analysis of the radioxenon detections in Takasaki, April 2013 as a step towards data fusion

Our analysis uses source-receptor sensitivities calculated with FLEXPART and ECMWF data on 0.25 degree resolution and an output grid of 20km resolution. Xe-133 measurements at Takasaki and four surrounding stations are included, with the three significant detections at Takasaki, plus non-detections / not significant detections before and after. The inversion follows a Bayesian approach and minimizes the weighted deviations model – measurement and the deviation from an a priori source term, plus deviation from smoothness. The source is resolved in time and vertically. We are both investigating the scenario where the source is unknown, and a comparison among the cost function values for all candidate grid cells is used to narrow down the possible source region, and a scenario where the DPRK test site is assumed as the source location. In the first scenario, a step towards data fusion is made by overlaying seismic events from a four-weeks time window, ordering these events with the cost function. The method finds the DPRK test site as being among the top-ten events. We obtain a release of 4E11Bq, attributed to a vertical column of about 1000 m above model surface, lasting for 12 hours in the first half of April 6.

Primary author: SEIBERT, Petra (University of Natural Resources and Applied Life Sciences (BOKU))

Presenter: SEIBERT, Petra (University of Natural Resources and Applied Life Sciences (BOKU))

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