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Prototype Software for Automatic Data Fusion Analysis of Candidates for Underground Nuclear Explosions Detected by IMS

A complete analysis of candidates for underground nuclear explosions detected in the IMS requires the combined use of seismic and radionuclide data, as well as atmospheric transport modelling (ATM). A new method performing such analysis automatically has been developed and tested at the Swedish NDC. The algorithm is implemented in a new pilot software called SEICON. The software calculates a time of fission window using observed radioxenon ratios, with uncertainties, in combination with a selected release scenario calculated using SCALE. Based on this, seismic events are selected, and further screened using possible source regions or field of regards obtained from ATM. The software was successfully tested in the NPE12. The methodology will be presented, together with results obtained so far.

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