T3.3-P05. Application of the framework for detection software evaluation

The IDC receives and processes data from the global network of the IMS for seismic, hydroacoustic and infrasound sources. The analysis involves a multistage automatic processing at station and network levels, followed by an interactive review of the results performed by waveform analysts. The study summarizes the results of the project "Framework for detection software evaluation" that was reviewed by a group of Experts at the Technical Meeting in October 2014. The project aimed at establishing metrics and methodologies for quantifying the performance of signal and event detection algorithms of the kind that are in regular use at the IDC. Typically the software under benchmark provides a detection bulletin from observed data. In this framework the software is seen as a single process, even though it is composed of several sub-processes. The evaluation make used of a database of synthetic (and pseudo-synthetic) datasets to exhibit specific aspects of the detection. The following items will be considered in the presentation: (i) a list of indexes to evaluate the performances of the software under test, (ii) a list of technology specific attributes, (iii) a list of selected parameters to generate realistic synthetic data, and (iv) the application to concrete case study.

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