



Implementation Of An Automatic Filtering Method For The Signals Of The Seismographic Station (Aquidauana - Aqdb, Ms) In A Real-Time Seismic Monitoring Software

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Abstract

The objective of this work was to implement an automatic filtering method previously calculated in a real-time monitoring system (SeisComP3) for the signal coming from the seismographic station Aquidauana (AQDB) in the state of Mato Grosso do Sul, to evaluate the relevance of the treated signal of local, regional or distant seisms (teleseisms). SeisComP3 is a software for the acquisition of real-time seismic data, being of high standard divided into graphical partitions. Some of them, such as the scrttv, that constantly show the waves recorded by the stations and the markings made by the system. The graphical partition scesv presents a map with the pre-location of each earthquake and their information (magnitude, depth, graphical location, date, number of stations that recorded the event, among others), besides that, the sconfig can be used to set up the SeisComP3. In order to separate the seismic event from pre-existing noises, filter values were inserted in the SixSpanP3 through the graphic partition "sconfig" (processing >> scautopick), where the filter value was added to the filter. Then, the sub-module "bindings" was used to apply the new filter patterns in the AQDB station. After the modification of the default settings and the implementation of the SeisComP3 filter values, a total of 151 events were recorded from diverse regions, identified from 18/03/2017 to 23/08/2017. The applied test system obtained a minimum use of 77% of the events recorded and calculated. The number of events detected could be much greater, but in this sense, events that occurred in South America were preferred, limited to 15 degrees of distance (1650km). This configuration allowed the system to record only events occurring in the region of interest, facilitating the pre-processing of data and post-analysis of this material.

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