



NET-VISA, a Bayesian method next-generation automatic association software. Latest developments and operational assessment.

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The Preparatory Commission for the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) has been developing a Bayesian method and software to perform the key step of automatic association of seismological, hydroacoustic, and infrasound (SHI) parametric data. In our preliminary testing in the CTBTO, NET_VISA shows much better performance than its currently operating automatic association module, with a rate for automatic events matching the analyst-reviewed events increased by 10%, signifying that the percentage of missed events is lowered by 40%. Initial tests involving analysts also showed that the new software will complete the automatic bulletins of the CTBTO by adding previously missed events.

Because products by the CTBTO are also widely distributed to its member States as well as throughout the seismological community, the introduction of a new technology must be carried out carefully, and the first step of operational integration is to first use NET-VISA results within the interactive analysts' software so that the analysts can check the robustness of the Bayesian approach. We report on the latest results both on the progress for automatic processing and for the initial introduction of NET-VISA results in the analyst review process