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of the short time statistical analysis in significantly increasing the signal to noise ratio of infrasound, acoustic, hydroacoustic and seismic signals

Data recorded for monitoring a global nuclear-test-ban treaty are a mixture of useful signals, ambient and measurement noise. Suppressing these noises and increasing the signal to noise ratio is a significant task. The paper describes a way to suppress the mentioned noises, so that by applying the proposed method, the signal to noise ratio is increased by more than 20 dB. This result is achieved by applying the so-called statistical filter, whose operation is based on the application of fourth-order cumulants. The method enables de-noising of signals with or without overlapping time intervals.

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