
**Abstract**

A function of the Teager-Kaiser energy operator is introduced as a method for detecting transient signals in the presence of amplitude-modulated and frequency-modulated tonal interference. This function has excellent time resolution and is robust in the presence of white noise. The output of the detection function is also independent of the interference-to-transient ratio when that ratio is large. It is demonstrated that the detection function can be applied to interference signals with multiple amplitude-modulated and frequency-modulated tonal components.