

## عنوان مقاله:

A New Method for Feature Extraction and Classification of Some Underwater Acoustic Signals

## محل انتشار:

سومین کنفرانس بین المللی آکوستیک و ارتعاشات (سال: 1392)

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## خلاصه مقاله:

The identification and classification of underwater acoustic signal is an extremely difficult problem because of low SNRs and high degree of variability in the signal emanated from the same type of sound source. In this paper, we propose an algorithm for ships recognition using the sound they produce and radiate underwater, based on short-time Fourier transform. The algorithm forms a binary image to extract effective features, which has made from frequency spectrums of signal segmentations. Then, we give these extracted features to a neural net-work as a feature vector with which to classify the data. We have done different experiments on a different ship noise databank. In these experiments, we utilize the data set of different ship classes recorded by hydrophone to test the proposed scheme. Experimental results demonstrate the robustness of the proposed method. The correct recognition accuracy in these five classes is 94.07 percentages with 5dB S/N ratio, 95.13 percentages with 10dB S/N ratio, and 100 percentages without any added noise.

## کلمات کلیدی:

Classification; H Matrix; Short Time Fourier Transform; Underwater Noise

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/270882>

