

Parametric Models For Helicopter Identification Using ANN

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Summary

An artificial neural network (ANN) based helicopter identification system is proposed. The feature vectors are based on both the tonal and the broadband spectrum of the helicopter signal. ANN pattern classifiers are trained using various parametric spectral representation techniques. Specifically, linear prediction, reflection coefficients, cepstrum, and line spectral frequencies (LSF) are compared in terms of recognition accuracy and robustness against additive noise. Finally, an 8-helicopter ANN classifier is evaluated, It is also shown that the classifier performance is dramatically improved if it is trained using both clean data and data corrupted with additive noise.

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