



# Effects of threshold on single-target detection by using modified amplitude-modulated joint transform correlator

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## Abstract

Effects of threshold value on detection performance of the modified amplitude-modulated joint transform correlator are quantitatively studied using computer simulation. Fingerprint and human face images are used as test scenes in the presence of noise and a contrast difference. Simulation results demonstrate that this correlator improves detection performance for both types of image used, but moreso for human face images. Optimal detection of low-contrast human face images obscured by strong noise can be obtained by selecting an appropriate threshold value.

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*Keywords:* Target detection; Modified amplitude-modulated joint transform correlator; Detection performance

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