Abstracts

An Experimental Adaptive Nulling Receiver Utilizing the Sample Matrix Inversion Algorithm with Channel Equalization

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The suppression of external interference in an adaptive radar is often limited by frequency-dependent channel tracking errors. Techniques for effectively equalizing a narrow-band side-lobe canceler are discussed in this paper, and an experimental four-channel receiver that supports both open-loop and closed-loop operation is described. As implemented, three different canceler modes are possible: feedforward, feedback, and a tandem feedback/feedforward combination. All three modes have been successfully demonstrated in bench experiments with a broad-band noise source using the sample matrix inversion algorithm.

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