

Convoy parameter estimation with array radar

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Abstract: The problem of recognition of extended targets such as convoys of ground vehicles by radar is discussed. The paper focuses on target recognition during the search and track radar mode, i.e., using a real aperture mode. Radar with multi-channel array antenna is assumed. Such radar produces multi-channel echo data and offers the potential of space and space-time signal processing. Generalised spatial power estimators are used to estimate the cross-range length component of a convoy. If the radar is in motion space-time techniques have to be applied.