Abstracts

Retrodirective array augmentation for electronic RCS modification

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In this paper, an active Pon type retrodirective array (RDA) is augmented with a passive array in order to provide electronic modification of the transmit function of the combination in response to the influence of an external interrogating signal. By the use of a single phase shifter and level setting control, it will be shown that different types of broadcast mode can be initiated. The first of these is the self-tracking capability normally associated with a Pon heterodyne RDA. Broadside radiation production associated with a conventional in-phase fed passive array operating in transmission mode is also demonstrated. Additionally, new modes of operation which include the use of the configuration are described: 1) as a radiation nulling device; 2) its use as a sidelobe suppressor; and 3) as a beamwidth control device.

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