Abstracts

Reducing the mutual coupling effect in adaptive nulling using a re-defined mutual impedance

Hon Tat Hui. "Reducing the mutual coupling effect in adaptive nulling using a re-defined mutual impedance." 2002 Microwave and Wireless Components Letters 12.5 (May 2002 [MWCL]): 178-180.

The effect of mutual coupling in an adaptive antenna array for the nulling of interferences is investigated. The concept of mutual impedance is re-defined to take into account of the scattering effect due to the other antenna elements in the array. The re-defined mutual impedances are used to reduce the mutual coupling effect by calculating the open-circuit voltages from the measured voltages on the antenna terminals. Results show that by using the re-defined mutual impedances, substantial improvements in term of the depths and the accuracy of the nulls can be obtained over a previous method.

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