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Pattern Synthesis using Fourier Transform Method

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Abstract: Array Antennas plays important role in communication and radar applications. The applications such as satellite communications and radar systems use compact antenna arrays, where the antenna array weight and size are limiting factors. Keeping these issues in view, a new approach for the synthesis of linear arrays with less number of antenna elements is considered. An improved antenna array pattern synthesis method using Fourier transform is proposed, which can be effectively applied to the synthesis of large planar arrays with periodic structure. This method generates the patterns with better radiation characteristics.

Keywords: Linear array, pattern synthesis