

论文

## 岸基远程高频表面波雷达小型宽带天线系统的设计

高火涛, 杨子杰, 李杰, 魏忠伟

武汉大学电子信息学院, 武汉, 430079

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摘要

从高频表面波雷达天线工程的角度出发, 基于对数周期天线的设计理论, 优化设计了一副小型 宽带发射天线; 基于端射阵理论, 优化设计了一副小型宽带、具有大前后比的双鞭天线, 并以此作为阵列天线的基本单元组成六元均匀线阵。文中分析了收发天线的工作原理, 并给出了计算机模拟结果。

关键词 [小天线系统](#) [对数周期天线](#) [双鞭天线](#) [相控阵](#)

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## Design of a Small Broadband Array System for High-Frequency Surface Wave Radar

Gao Huo-tao, Yang Zi-jie, Li Jie, Wei Zhong-wei

School of Electronic Information Wuhan University Wuhan 430079 China

Abstract

According to the requirements of engineering design for High-Frequency Surface Wave Radar (HF-SWR), at first, a small broadband transmitting antenna is optimized based on the theory of log periodic antennas. Then, based on the end-fire array theory, a small broadband twin-whip antenna with big forward to backward ratio is designed. And six twin-whip antennas are used as the fundamental element to form 12 side plane array system. The working principle of 12 side array and the log periodic antennas are analyzed, and calculating result is given in this paper. A practical broadband antenna system for HF-SWR is designed.

Key words [Small antenna system](#) [Log periodic antennas](#) [Twin-whip antenna](#) [Phased array](#)

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