

Mutual coupling Reduction in antenna arrays using Metasurface

Safia Jaouad¹, Mariem Aznabet², Otman EL Mrabet¹, Mohsine Khalladi²

¹Information and Telecommunication Systems Lab, Faculty of Sciences, University of Abdelmalek Essaadi, Tétouan, Morocco.

²Department of Electrical and Computer Engineering, University of Wisconsin–Madison, Madison, WI 53706 USA.

*corresponding author, E-mail: safia.jaouad@gmail.com

ABSTRACT

In this paper, a meta-surface is developed as an effective solution for reducing mutual coupling between two adjacent antennas. The meta-surface comprises an array of omega shape resonators placed above two closely antennas. The simulated results show a 24 dB reduction in coupling when placing meta-surface over two adjacent antennas separated by a spacing of $1/5$ wavelength at frequency of 2.85 GHz. Furthermore, the gain of antenna arrays with the meta-surface is also improved by 3dB.

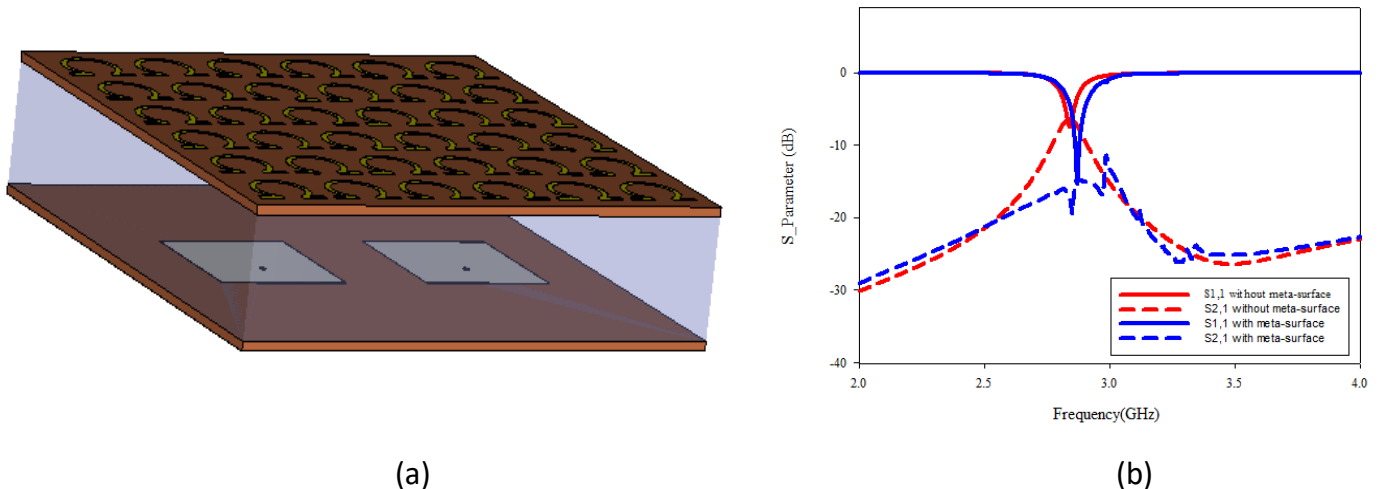


Figure1: (a) Antenna Array with meta-surface; (b) simulated S-parameter with and without meta-surface

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