

Planar superstrate for dual-frequency RHCP-LHCP array

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Abstract— Patch antennas are low profile, lightweight and most suitable for aerospace and mobile applications. In recent years Fabry-Pérot cavities and meta-surfaces have been used as superstrates to improve the radiation performance of planar antennas (Saenz et al., IEEE Trans. Antennas Propag. 56(4), 2008; Iriarte et al., IEEE Trans. Antennas Propag. 57(1), 2009) such as directivity, mutual coupling on array configuration and bandwidth. These structures usually work for a single polarization and frequency band, while an increasing number of applications require multifrequency operation. In this paper a Fabry-Pérot cavity that works with dual-polarized and dual-frequency patch antennas (rectangular patch excited orthogonally) is proposed in order to design high-directivity dual-frequency RHCP-LHCP Arrays.

Index Terms—

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