

Analysis method of microstrip antennas on hemispherical multilayer structures

Giang T.V.B., Dreher A.

College of Technology, Vietnam National University, Hanoi, Viet Nam; German Aerospace Center (DLR),
Institute of Communications and Navigation, D-82234 Wessling, Germany

Abstract: A generalized method for the analysis of microstrip antennas, which are placed on or embedded in hemispherical multilayer structures, is presented. By using corresponding full-wave equivalent circuits, the dyadic Green's functions of these structures and their system equations for the tangential field components at the interfaces can be analytically derived in a simple way. The numerical results are verified with commercial software codes. Some effects of the curvature and the ground plane on the input impedance of microstrip antennas are shown. © 2008 IEEE.

Author Keywords: Conformal antennas; Hemispherical structures; Method of moments; Microstrip antennas; Numerical techniques; Spherical sector structures

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Correspondence Address: Giang, T.V.B.; College of Technology, Vietnam National University, Hanoi, Viet Nam; email: giangtvb@vnu.edu.vn

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Authors with affiliations:

- Giang, T.V.B., College of Technology, Vietnam National University, Hanoi, Viet Nam

- Dreher, A., German Aerospace Center (DLR), Institute of Communications and Navigation, D-82234 Wessling, Germany

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