

**ASSESSMENT OF INPUT IMPEDANCE OF AN AXIAL SLOT ANTENNA ON A SECTORAL  
CYLINDRICAL CAVITY EXCITED BY PROBE USING METHOD OF MOMENTS**

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**Abstract**

This paper presents the assessment of input impedance of a sectoral cylindrical cavity-backed slot antenna excited by a probe. This antenna is proposed to be an element of array that can be assembled to be the antenna for UHF TV broadcasting system. The integral equations are derived based on boundary conditions of the proposed structure and are expressed in terms of dyadic Green's functions and unknown currents. The unknown current densities are solved by the Method of Moments and the input impedance is derived subsequently. Numerical results show the variation of input impedance, for the specified dimensions of the antenna, as a function of frequency. This result is validated by measurement and found that the result is sufficiently accurate. The result from this study is useful for the design of a sectoral cylindrical cavity-backed slot antenna excited by a probe.