

**Department of Electronic Engineering
&
State Key Laboratory of Millimeter Waves (Hong Kong)
&
IEEE AP/MTT HK Joint Chapter**

Postgraduate Seminar on

A Differentially-fed Magneto-Electric Dipole Antenna for UWB Applications

**By
Mr. Mingjian LI**

Date : December 29, 2011(Thursday)
Time : 11:00 a.m. – 11:30 a.m.
Venue : Room G 6302, 6/F, Green Zone, Academic 1, Department of Electronic Engineering, City University of Hong Kong

Abstract

A new magneto-electric dipole antenna with unidirectional radiation pattern is proposed. A novel differential feeding structure is designed to provide an ultra-wideband impedance matching. A stable gain of 8.25 ± 1.05 dBi is realized by introducing slots in the magneto-electric dipole and using a rectangular box-shaped reflector, instead of a planar reflector. The antenna can achieve an impedance bandwidth of 114% for $SWR \leq 2$ from 2.95GHz to 10.73GHz. Stable radiation patterns with low cross polarization, low back radiation and symmetric E- and H-plane patterns are obtained over most of the operating frequency range. Moreover, the antenna phase center is stable, which is necessary for the time domain UWB pulse transmission. The proposed antenna, which is small in size, can be constructed easily by using PCB fabrication technique.

Biography

Mr. LI received his Bachelor Degree from City University of Hong Kong in 2010. He is now pursuing his PhD degree under Prof. Kwai-Man Luk's group in City University of Hong Kong. His research interests include wideband antennas and millimeter-wave antennas.

*** ALL ARE WELCOME ***

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