

Technical Speech- Novel left-handed waveguide and it's application to continuous beam-scanning leaky wave slotted array antenna

時間：2010年10月4日上午9:30~11:00

地點：S706

主辦單位：南台科技大學電子系/通訊工程研究所

協辦單位：IEEE AP-S Tainan Chapter/臺灣天線工程師學會(IAET)
IEEE Tainan Section/ IEEE Taipei Section

時間	項目	主持人/主講人
9:10~9:30	準備及就坐	
9:30~10:30	Novel left-handed waveguide and it's application to continuous beam-scanning leaky wave slotted array antenna	Qun Wu(吳群) , Prof. School of Electronic and Information Engineering Harbin Institute of Technology (HIT), P.R.China
10:30~11:00	Q&A	

□ABSTRACT

Left-handed medium (LHM) is defined as an artificial electromagnetic composite medium with simultaneously macroscopic negative permittivity and negative permeability. However, traditional LHM structures exhibit high loss and narrow bandwidth, which lead to little practical interest of engineering applications.

This talk describes a novel left-handed waveguide structure based on the classical LHM theory, a resonant-slot coupled cavity chain (RSCCC) unit cell is proposed. The backward and forward transmission properties are verified by both eigenmode and time-domain simulation, which indicate the composite right/left handed properties. Furthermore, a type of square waveguide based on RSCCC is designed utilizing a novel feeding structure. The continuous forward and backward beam-scanning ability of the leaky

wave slotted array antenna is realized.



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Prof. Qun Wu received his BEng, MEng, PhD degrees all in Harbin Institute of Technology (HIT), PRChina . During 1986-2001, he worked as Lecturer and later Associate Professor at Dept. of Electronic and Communication Engineering, Harbin Institute of Technology. During 2001-present, he worked as Professor in the Dept. of Electronic and Communication Engineering ,HIT. In 1998-1999, he visited Seoul National University, Korea as Visiting professor. In 1999-2000, he visited Pohang University of Science and Technology, Korea as Visiting professor. In 2003, 2005,2007,2008, 2010, he visited National University of Singapore as visiting professor. Prof. Wu has organized many international technical events as technical program committee chairs. He has delivered invited talks at many international events. He is serving several international journals as Editor, Associate Editors, Guest Editors, and Reviewers.

Prof. Wu has published more than 100 journal and conference papers. He has authored and edited the books entitled “Microwave Technology ”, Microwave Engineering and Techniques ”” Simulation and Design for RF & Microwave Circuits by Using Genesys” and “Electromagnetic Compatibility: Principle and Techniques ” all published by Harbin Institute of Technology Press. He is the co-/inventor of more than 5 granted and filed patents. His current research interest includes RF/Microwave/Millimeter Wave Devices & Circuits, Antenna and Electromagnetic Compatibility, RF MEMS, MMIC, Negative Index Media(metamaterials). Prof. Wu is currently the vice chair of Harbin section and the chair of IEEE AP/MTT/EMC joint Harbin chapter.



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