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SEMINAR

A Review of The Four-Dimensional Antenna Arrays

Speaker: Prof. Shiwen YANG
(University of Electronic Science and Technology of China - UESTC)
Date: 20 July 2017 @ 12:00 AM
Location: Room Garda – Polo Scientifico F. Ferrari – Povo
Note: The seminar will be held in English
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With the rapid development of modern electronic technologies, antenna arrays are widely used in various wireless electronic systems. The common requirements for modern antenna arrays include wideband, high gain, low sidelobes or low cross-polarization levels. These requirements pose stringent requirements again on the fabrication precision of the array structure, the feeding precision of the feed network or error tolerance, etc., which are difficult to meet for conventional antenna arrays. By introducing a new degree of design freedom the time, four dimensional antenna arrays can be formed, thus having much design freedom of antenna arrays. In this talk, the research background, basic principles and research status of the four dimensional antenna arrays are reviewed. Specifically, some practical topics and potential applications such as the sideband suppression, mutual coupling compensation, DOA estimation, secured communications, OAM communications and heterogeneous antenna arrays are covered.

• About the Speaker

Shiwen Yang was born in Sichuan Province, China, in 1967. He received the B.S. degree in electronic science and technology from East China Normal University, Shanghai, and the M.S. degree in electromagnetics and microwave technology and the Ph.D. degree in physical electronics from the University of Electronic Science and Technology of China (UESTC), Chengdu, in 1989, 1992 and 1998, respectively.

From 1994 to 1998, he was a Lecturer with the Institute of High Energy Electronics, UESTC. From 1998 to 2001, he was a Research Fellow at the School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore. From 2002 to 2005, he was a Research Scientist with Temasek Laboratories, National University of Singapore. Since 2005, he has been a Full Professor with the School of Electronic Engineering, UESTC. Since 2015, he has been a Chang-Jiang Professor nominated by the Ministry of Education of China. He has authored or co-authored over 200 technical papers. His current research interests include antennas, antennas arrays, optimization techniques, and computational electromagnetics.

Prof. Yang received the Foundation for China Distinguished Young Investigator presented by the National Science Foundation of China in 2011. He is the chair of the IEEE AP-S/EMC-S Chengdu Joint Chapter, and served as an Editorial Board Member of *IJAP* and *Chinese Journal of Electronics*.

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