

Seminar on

A High-Directivity Phased Array for Secure Transmission

by

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Abstract

A high-directivity phased array using combination of beam-steering technique and novel null tracking technique for secure signal transmission is presented. The proposed phased array provides super high directivity and constant data beamwidth for a wide scanning angle without alternating transmitting power. It achieves that by generating jamming signal with a null towards the direction of data signal's beam as well as a stable twin-beam tracking with the null. A 3X4 antenna array prototype is designed and fabricated. It demonstrates high signal-to-noise ratio directivity of over 25 dB, as well as a constant data beamwidth (S/N >12 dB) of 15° and a large jamming window (S/N <0 dB) to interfere the spy receivers for a wide scanning angle between ±27° for GSM1800 application.

Biography

Chengcheng Tang was born in Chongqing, China, in 1986. He received the B.S. degree in Electronic and Communication Engineering from the City University of Hong Kong, HKSAR, China, in 2009, and is currently working toward the Ph.D. degree at the same university. His research interests include RF circuit design and phased antenna array system design.

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City University of Hong Kong

*** ALL ARE WELCOME ***

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