学 术 报 告
ACADEMIC LECTURE

ISEE

题目：**New Approaches for Channel Estimation of MIMO-OFDM Systems**

时间：**2010年7月17日星期六上午10：00**

地点：**行政楼208**

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报告内容

Multiple-input multiple-output orthogonal frequency division multiplexing (MIMO-OFDM) is considered as a very promising candidate for 3G wireless communication systems, due to its high data-rate and superior wireless transmission performance. It is known that the advantages promised by MIMO-OFDM rely on the precise knowledge of the channel state information (CSI). In real wireless environments, however, the channel condition is unknown. Therefore, channel estimation is of crucial importance in MIMO-OFDM systems.

In this talk, several semi-blind channel estimation approaches for MIMO-OFDM systems are introduced. These methods include (1) semi-blind estimation of frequency-domain channels; (2) semi-blind estimation of time-domain channels; (3) signal perturbation free channel estimation; (4) sparse channel estimation; and (5) channel estimation with pulse-shaping. It is shown through both theoretical analysis and simulation study that the proposed algorithms in general have a better estimation performance than the prior methods in the literature. For example, the new WR-based algorithm using the proposed signal-perturbation-free transmit scheme significantly outperforms the conventional WR-based method and the nulling-based semi-blind method. As well, the proposed semi-blind method for pulse-shaped MIMO-OFDM systems is much better than the conventional channel estimation without considering pulse-shaping.