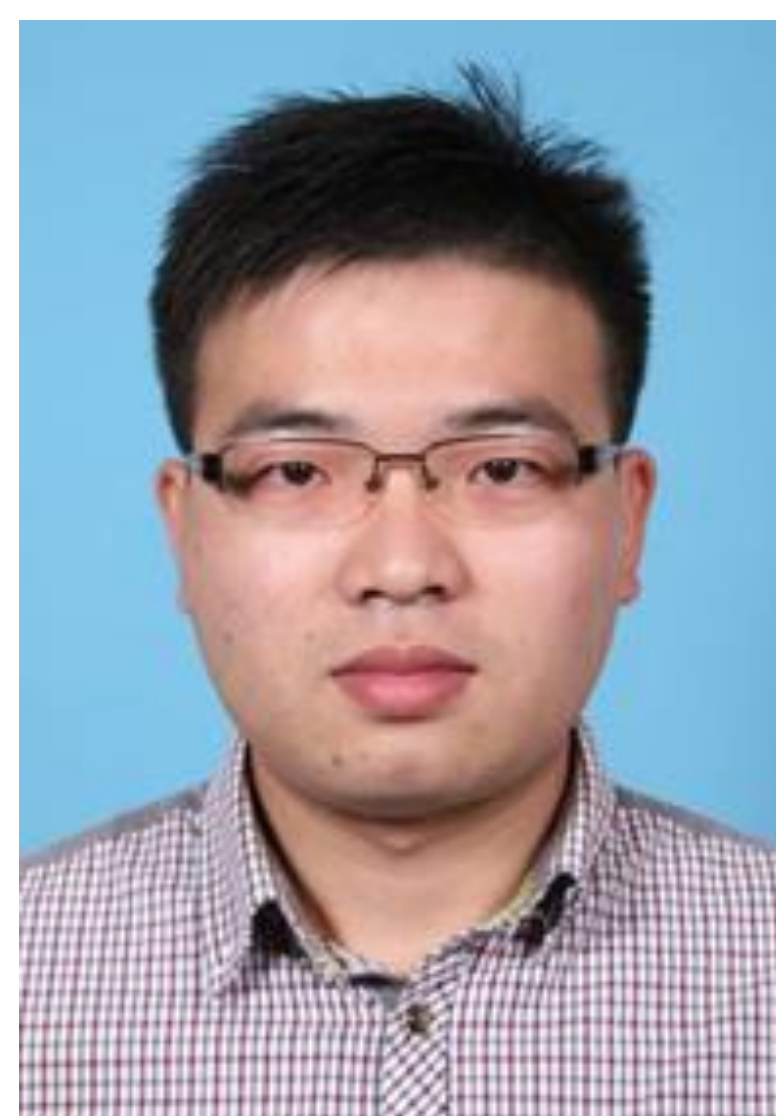




# 學術報告

## Research on Resource Optimization in Precoding-based Multi-antenna Networks



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时间: 12月28日 星期四 下午 2:00

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**Biography:** Bin Hu received the B.S. degree in Department of Automation from Northeastern University, Shenyang, China, in 2012. He is currently working toward the Ph.D. degree in control science and engineering at Shanghai Jiao Tong University, Shanghai, China. His research interests include interference management, beamforming and its applications, optimization theory, 5G wireless networks, and Cloud-RAN.

With the rapid development of manufacturing technology and mobile communication technology, the number of mobile terminals and the demand of data traffic show explosive growth. In this context, multi-antenna network has been emerged as one of the primary achievements in wireless communications during the past decades, which can significantly improve users' signal-to-noise ratio and suppress the interference by the precoding technology from the spatial dimension. In addition, the frequency resource is reused in each cell of the future networks. By adopting cooperative precoding strategy among the base stations, the inter-cell interference can be effectively inhibited or even completely eliminated. This report aims to study the precoding-based interference coordination technology and resource optimization scheme in the typical two emerging types of multi-antenna networks, which are developed to deal with the challenges caused by the scarce communications resources and the complex interference management.