

指導教授 | 陳永芳 Yung-Fang Chen 教授
E-mail | yfchen@ce.ncu.edu.tw

研究領域

訊號處理技術實驗室主要研究方向為通訊與訊號處理系統之演算法設計與系統效能分析，包含規格研究，演算法模擬與實現，系統模擬效能評估等。目前主要致力於下世代行動通訊技術之研究工作，議題有，資源配置，多天線傳輸技術，第五代行動通訊系統，多輸出輸入雷達系統，毫米波系統，人工智慧之通訊問題應用等。

Signal Processing Technology Laboratory mainly focuses its research on the algorithm design and the performance analysis of communication and signal processing systems. The study includes the whole flow of system specifications, simulation and implementation of algorithms, and system performance evaluations. We currently contribute to the research topics on the next generation communication systems, which may include resource allocation, multiple antenna transmission technologies, 5G/B5G, MIMO radar, mmWave systems, and artificial intelligence (AI)-based algorithms for communication/signal processing applications.

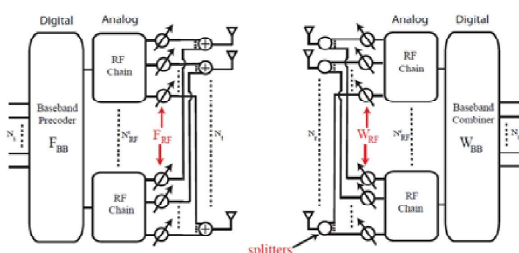


Figure 1. A hybrid beamforming single-user fully-connected structure.

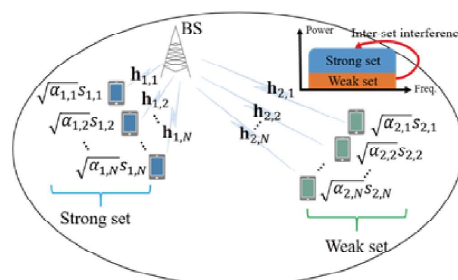


Figure 2. Illustration of uplink NOMA beamforming transmission systems.

近期研究成果

- ◆ J.H. Tseng, Y.F. Chen, and C.L. Wang, "User Selection and Resource Allocation Algorithms for Multicarrier NOMA Systems on Downlink Beamforming," IEEE Access, Aug. 2019. (Under Review)
- ◆ S.M. Tseng and Y.F. Chen, "Average PSNR Optimized Cross Layer User Grouping and Resource Allocation for Uplink MU-MIMO OFDMA Video Communications," IEEE Access, vol. 6, no. 1, pp. 50559-50571, Dec. 2018.
- ◆ S.M. Tseng, Y.F. Chen, P.H. Chiu and H.C. Chi, "Jamming Resilient Cross-Layer Resource Allocation in Uplink HARQ-based SIMO OFDMA Video Transmission Systems," IEEE Access, vol. 5, pp. 24908-24919, Oct. 2017.
- ◆ W.C. Pao, Y.F. Chen, and M.G. Tsai, "An Adaptive Allocation Scheme in Multiuser OFDM Systems with Time-varying Channels," IEEE Transactions on Wireless Communications, vol. 13, no. 2, pp.669 - 679, Feb. 2014.
- ◆ W.C. Pao and Y.F. Chen, "Adaptive Gradient-based Methods for Adaptive Power Allocation in OFDM-based Cognitive Radio Networks," IEEE Transactions on Vehicular Technology, vol. 63, no. 2, pp. 836 - 848, Feb. 2014.