Journal Review
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Joint Resource Allocation and User Association for Heterogeneous Wireless Cellular Networks
Dariush Fooladivanda and Catherine Rosenberg

• Proposing unified centralized static framework to compare several combinations of association rules and RAIM schemes (Orthogonal, Co-channel and Partially Shared deployments)

• For CCD optimal user association problem, for OD and PSD an optimal joint user association and resource allocation problem is formulized

• Objective function corresponds to PF (global). Non convex integer programs. Developing numerical techniques to compute tight upper bounds

• Picocell First Cell Association rule is proposed: Associate users with pico BSs regardless of their received power from the macro BS as long as the best SINR seen from a pico BS is larger than $\beta$

• Simulation results show gains in throughput in the range of 140% to 224% if the system uses right combination of user association and resource allocation
Coordinated Multicast Beamforming in Multicell Networks
Zhengzheng Xiang, Meixia Tao and Xiaodong Wang

- Physical layer multicasting in multicell networks where each BS has multiple antennas and transmits a common message using a single beamformer to multiple users in the same cell.

- Two coordinated (beamformer level- not data sharing) beamforming designs: QoS Beamforming and max-min SINR beamforming

- Based in decomposition theory, propose novel decentralized algorithm to implement coordinated beamforming with limited information sharing among different base stations.

- Linking MMS problem with a weighted peak power minimization (WPPM) problem and propose an efficient algorithm to find near optimal solution

- Investigate impacts of intercell-user and intracell-user channel correlation multicast network
QoS-Aware and Energy-Efficient Resource Management in OFDMA Femtocells
Long Bao Le, Dusit Niyato, Ekram Hossain, Dong In Kim and Dinh Thai Hoang

• Joint resource allocation and admission control problem for OFDMA based femtocell networks.

• Cross-layer design model with multiband opportunistic scheduling at MAC layer and admission control at network layer.

• MUE and FUE have minimum average rate constraints depend on geographical locations and application requirement

• Optimal design for the admission control problem by SMDP

• Novel distributed femtocell power adaptation algorithm

• Demonstrate the efficacy of the proposed admission control scheme and power saving gains of proposed power adaptation algorithm
Other Papers

• “A Framework for Uplink Intercell Interference Modeling with Channel-Based Scheduling” Hina Tabassum, Ferkan Yilmaz, Zaher Dawy, Mohamed-Slim Alouini

• “Zero Forcing Beamforming in Multiuser MISO Downlink Systems Under Per-Antenna Power Constraint and Equal Rate Metric” Sang-Rim Lee, Jin-Sung Kim, Sung-Hyun Moon, Han-Bae Kong and Inkyu Lee