Interference management in wireless networks

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wireless network

- with infrastructure
wireless network

- no infrastructure
- ad hoc
- wireless multihop
context

- network
  - fixed spectrum
  - tremendous growth
    - applications
  - users
interference

- avoiding
interference

• avoiding

• coexisting
interference

• avoiding

• coexisting

• harnessing
challenges

• complexity

• overhead

• performance gains
exaggerated

• network
  
  • fixed spectrum

• tremendous growth
  
  • applications

• users
interference

• Bobak Nazer, Boston

  • information theoretic view

  • compute and forward

  • integer forcing
interference

• Krishna Narayanan, Texas A&M

• coding view
  
  • compute and forward

• constellation and code design
interference

- Dongning Guo, Northwestern

- coexistence
  - LTE deployed in unlicensed band
    - game theoretic
  - control interference
interference

- Osvaldo Simeone, NJIT

- cloud radio access network—LTE
  - interference mitigation onto the cloud
  - multiterminal compression
  - compute and forward