Future Work

- Cognitive Radio Network: System Model
  - PU Localization in Cognitive Networks

Cognitive Radio Network: System Model

- Single SU localizes using received signal strength
- GMM estimation in linear time
- Localization with the required accuracy

Notes:
- Distribution of SU
- Localization with high FLS
- AUA increases with SU’s distance from the BS
- PU and SU in the same zone increases FLE
- High received power near the BS increases FIL

Estimation with Single SU: High Accuracy Localization in Cellular Networks

GMM Estimation

- GMM estimation: Three possible outcomes:
  1. Fractional localization error (FLE)
  2. Fractional localization success (FLS)
  3. Fractional localization error (FLE)

Future Work

- Adopting traffic arrival models, e.g. Poisson
- Adopting channel allocation, e.g. water-filling
- SU collaboration to increase the utilization
- Developing power allocation algorithms for SUs

References