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- Wide-Band Collaborative Spectrum Search Strategy for Cognitive Radio Networks

Authors: S. Fazeli-Dehkordy, K. N. Plataniotis and S. Pasupathy

Affiliations: Department of Electrical and Computer Engineering, University of Toronto, Canada

- n collaborating CRs try to jointly detect spectrum opportunities in a wideband spectrum within a spectrum sensing interval
- Objective:
 - speed up the channel search process by designing a sensing policy
 - sensing policy: maximize the expected number of identified idle channels
- Problem is modeled as finite horizon Markov decision process
- Closed-form solutions for the case of two collaborating CRs and 1-out-of- fusion rule (OR-rule) are derived

- Maximum Likelihood Estimator Under a Misspecified Model With High Signal-to-Noise Ratio

Authors: Q. Ding and S. Kay

Affiliations: Department of Electrical, Computer and Biomedical Engineering,
University of Rhode Island, Kingston, USA

- In estimating unknown parameter, most popular method is the Maximum-Likelihood Estimator (MLE)
- MLE is asymptotically optimal. (number of samples or SNR goes to ∞)
- Above is true when model is correctly specified
- But in practice, we may have a misspecified model and the MLE is called Quasi - MLE (QMLE)

- White Result:
QMLE converges to a limit which minimize the KL divergence between true PDF and misspecified PDF and it is asymptotically Gaussian for large data records
- Such results hold when $SNR \rightarrow \infty$?
- It is possible for a deterministic signal in additive Gaussian noise

- **Dynamic Interference Mitigation for Generalized Partially Connected Quasi-Static MIMO Interference Channel**

Authors: L. Ruan and Vincent K. N. Lau

Affiliations: ECE Department, Hong Kong University of Science and Technology,
Hong Kong

- In practice, the interference channels are usually partially connected
- Intuitively partial connectivity may result in increase in DOF
- Key challenges:
 - How to exploit partial connections in interference mitigation?
 - Achievable DOF for partially connected MIMO interference channels
- Two-stage dynamic interference mitigation scheme is proposed

- Cooperative Information Aggregation for Distributed Estimation in Wireless Sensor Networks

Authors: Y. Tsai, Member and C. Chang

Affiliations: Institute of Communications Engineering, National Tsing Hua University, Taiwan

- One of the interesting applications of WSNs is distributed estimation
- Use of one-bit quantizer at each node should reduce the energy consumption and communication bandwidth requirement but may result in poor estimation performance
- Use of multi-bit quantizer can improve the estimation performance at the cost of increasing energy and communication load
- Cooperative information aggregation (CIA) approaches for distributed estimation that consider the above-mentioned issues jointly is proposed

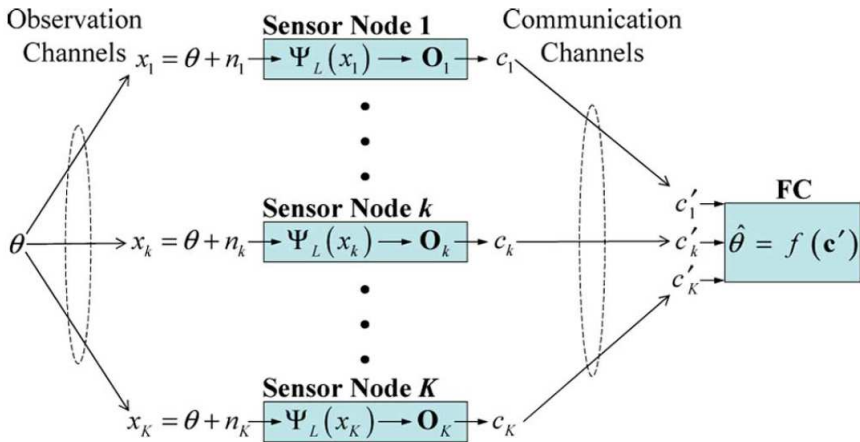


Fig. 1. The system model for WSNs.

some other papers

- Theory of Sparse Coprime Sensing in Multiple Dimensions (P. P. Vaidyanathan and Piya Pal)
- EM-Based Joint Channel Estimation and Detection for Frequency Selective Channels Using Gaussian Message Passing (Q. Guo and D. (David) Huang)
- From SPC Lab: Comparative Analysis of Pilot-Assisted Distributed Cophasing Approaches in Wireless Sensor Networks (Krishna Chaythanya K. V., R. Annavaajjala, and C. R. Murthy)