

arXiv.org > cs > arXiv:1106.2025

Sina Maleki, Geert Leus

(Submitted on 10 Jun 2011)

Computer Science > Systems and Control

We gratefully acknowledge supp the Simons Fo and member ins

Search or Article-id

(Help | Advance

Download:

- PDF
- PostScript
- Other formats

Current browse cont cs.SY

< prev | next > new | recent | 1106

Change to browse b

cs cs.DC cs.IT math stat stat.AP

References & Citatio

NASA ADS

DBLP - CS Bibliogra listing | bibtex Sina Maleki Geert Leus

Bookmark(what is this?)

shown that as the sensing cost of the cognitive radios increases, the energy efficiency of the censored truncated sequential approach grows significantly.
Comments: submitted to IEEE Transactions on Signal Processing
Subjects: Systems and Control (cs.SY); Distributed, Parallel, and Cluster Computing (cs.DC); Information Theory (cs.IT); Applications (stat.AP)
Cite as: arXiv:1106.2025 [cs.SY]

Censored Truncated Sequential Spectrum

Reliable spectrum sensing is a key functionality of a cognitive radio network. Cooperative spectrum

sensing improves the detection reliability of a cognitive radio system but also increases the system

energy consumption which is a critical factor particularly for low-power wireless technologies. A

censored truncated sequential spectrum sensing technique is considered as an energy-saving

approach. To design the underlying sensing parameters, the maximum energy consumption per

sensor is minimized subject to a lower bounded global probability of detection and an upper bounded false alarm rate. This way both the interference to the primary user due to miss detection and the

network throughput as a result of a low false alarm rate is controlled. We compare the performance

of the proposed scheme with a fixed sample size censoring scheme under different scenarios. It is

Sensing for Cognitive Radio Networks

(or arXiv:1106.2025v1 [cs.SY] for this version)

Submission history

From: Sina Maleki [view email] [v1] Fri, 10 Jun 2011 12:04:53 GMT (60kb)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.