

Call for Papers
IEEE Signal Processing Society
IEEE Journal of Selected Topics in Signal Processing

Special Issue on Non-cooperative Localization Networks

Localization of non-cooperative subjects refers to the process of locating subjects who are not intentionally participating in the localization process but still affect the radio spectrum in some way. The subjects may be actively avoiding localization, or they may be passive and not emitting any useful signals; however, a wireless network deployed to locate them may contain elements which actively transmit. Applications of this area include anti-terrorism or law enforcement, patient monitoring in medical facilities, and location-aware services and data-mining. In anti-terrorism and law-enforcement, the subjects are generally hostile and are trying to maintain a low radio profile; whereas in location-aware commercial services, the subjects may not mind being located, but they are still unlikely to actively assist the process.

Non-cooperative localization methods tend to fall under three categories: exploitation of a subject's radio shadow, as in radio tomographic imaging (RTI); exploitation of a subject's radio reflectance, as in multistatic radar or ultra wideband through-the-wall imaging; and exploitation of a subject's radio emissions, as in radio frequency identification (RFID) tag tracking or tracking spurious emissions from a radio device's local oscillator. This special issue covers the signal processing theory, modeling, and implementation issues particular to localization of non-cooperative subjects. The sensor network may consist of a single or multiple sensing modalities. Specific topics of interest include, but are not limited to:

- Localization of passive or device-free subjects
- Radio tomographic imaging
- Passive subject ultra wideband position location networks and through-the-wall human tracking
- Passive, multistatic radar and multi-target tracking
- Localization of RFID tags
- Localization of a radio device via its spurious or evasive emissions
- Signal processing for sparse localization networks: compressive sensing and statistical inversion
- Passive localization in the presence of multipath, non-line-of-sight, jamming, and/or interference
- Ad-hoc passive localization with a sparse matrix of nodes and/or with nodes dropping in and out
- Communication and routing protocols for RTI networks or RFID tag tracking networks

Prospective authors should visit <http://www.signalprocessingsociety.org/publications/periodicals/jstsp/> for information on paper submission. Manuscripts should be submitted using the Manuscript Central system at <http://mc.manuscriptcentral.com/jstsp-ieee>. Manuscripts will be reviewed via the standard IEEE process.

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First review completed:	Apr. 10, 2013
Revised manuscript due:	Jun. 10, 2013
Second review completed:	Sep. 10, 2013
Final manuscript due:	Oct. 1, 2013

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