

# Target Localization and Sensor Networks

## Low Complexity Algorithms Development

### Research Area

Localization and tracking, Sensor Networks

### Keywords

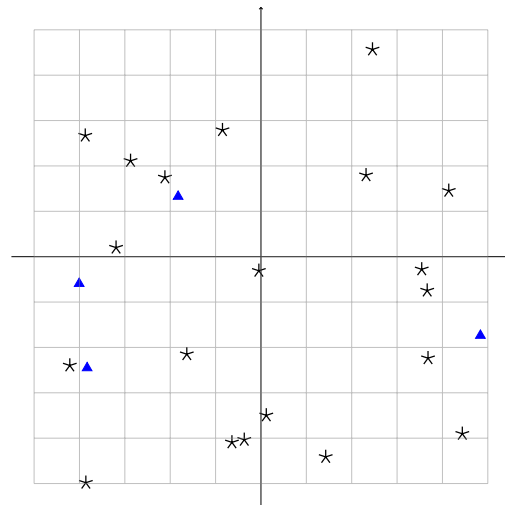
multi-target localization, optimization, compressed sensing

### Description

This thesis considers low cost wireless sensor networks to be deployed for localizing several targets. Such network has a vast range of application in today's life, including medical, biological, industrial, etc applications. The thesis aims at solving the challenging underlying problems optimally via low complexity solutions.

### Goal

The goal is to localize several targets by solving relevant optimization problems. As the underlying problems are challenging, the thesis will demand a solid contribution to come up with low complexity heuristics.



Network with  $K$  sensors (  $*$  ) and  $N$  targets (  $\blacktriangle$  )

### Requirements

To conduct this thesis successfully, one needs

- basic knowledge in communication systems
- standard competency in MATLAB
- basic knowledge in optimization theory (can be acquired during the course of the thesis)

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