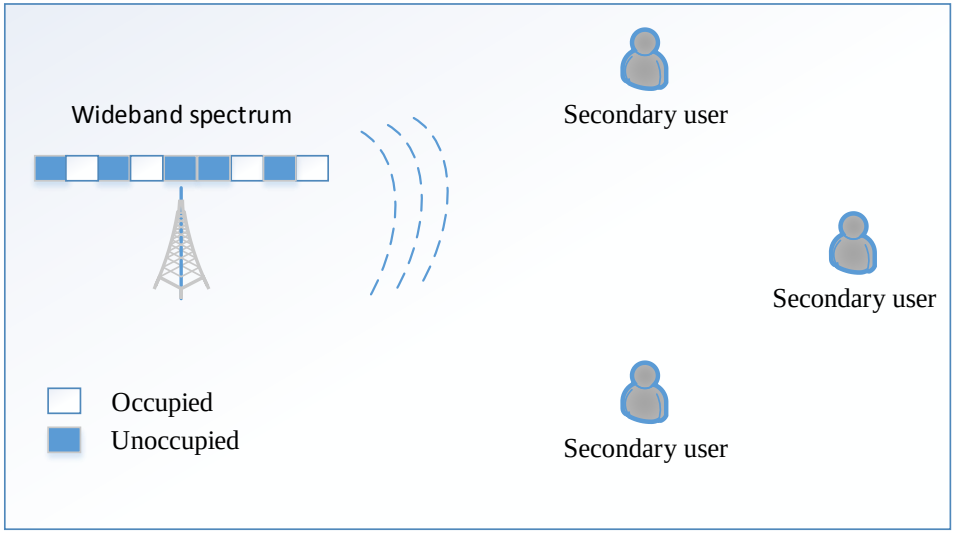
Data-Assisted Low Complexity Compressive Spectrum Sensing on Real-Time Signals under Sub-Nyquist Rate

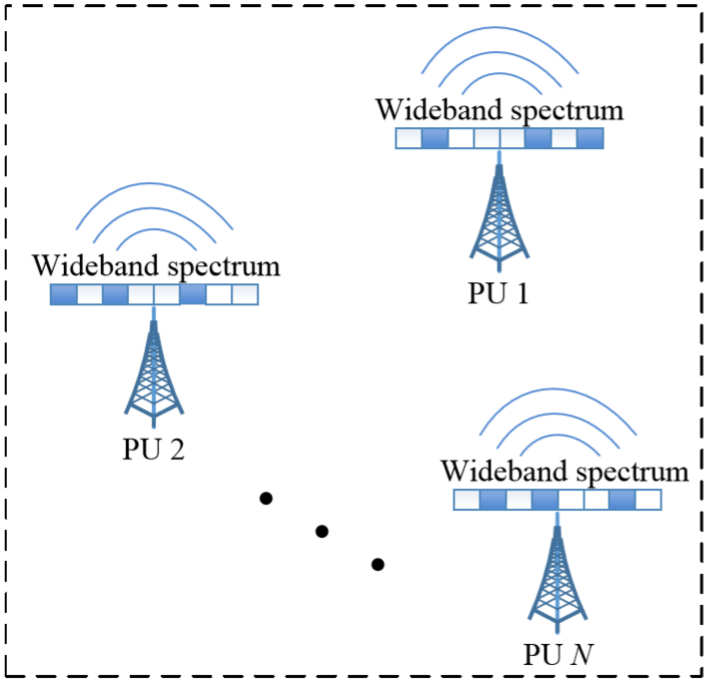
Zhijin Qin

- Hybrid framework for spectrum sensing
- Compressive spectrum sensing
- Geo-location database
- Tested on real signals

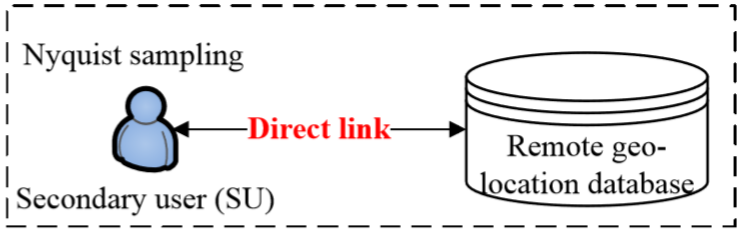


Data-Assisted Non-Iteratively Reweighted Least Squares based Compressive Spectrum Sensing

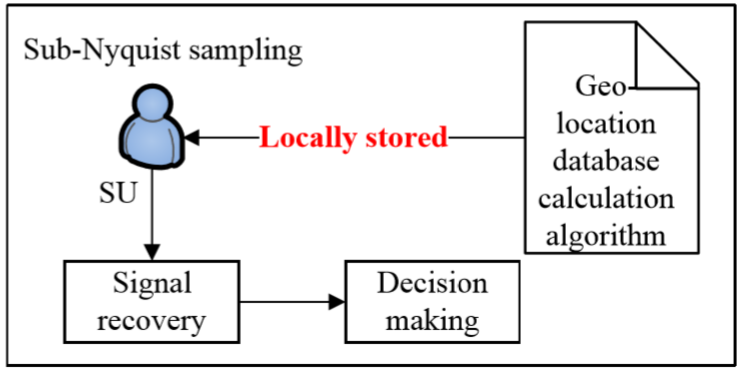
- Propose an efficient algorithm for geo-location database
- Implement geo-location database algorithm locally
- Remove the iterative process for signal recovery



(a) Multiple primary users (PUs) with wideband spectrum



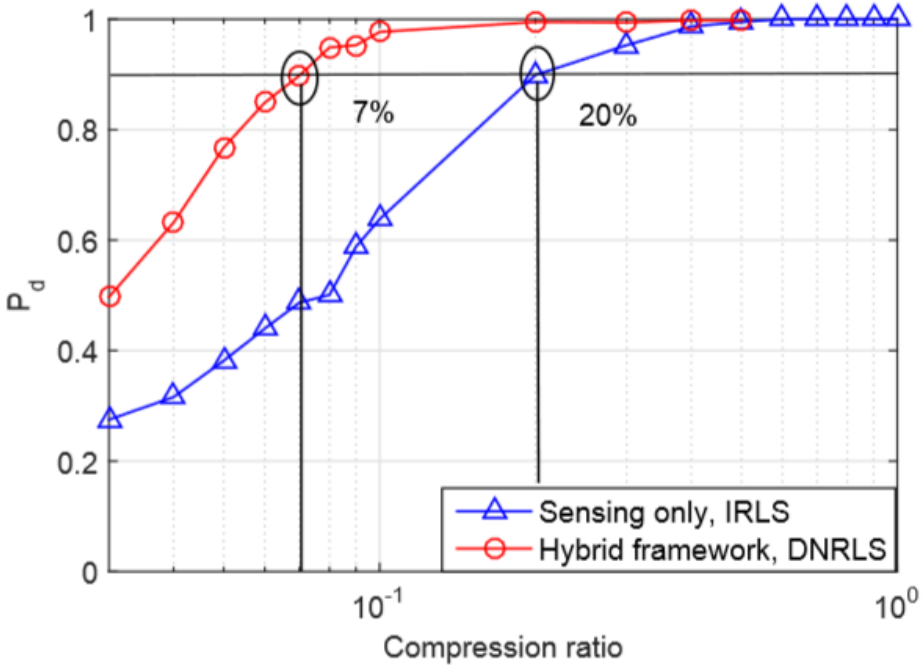
(b) Existing hybrid framework



(c) The proposed hybrid framework

Results and conclusion

- Achieve low computational complexity
- Get convergence efficiently
- Good candidate for energy constraint devices, e.g. M2M device



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