On the gap between local recovery guarantees in structured compressed sensing and oracle estimates

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This is a joint work with Ben Adcock and Simone Brugiapaglia (Simon Fraser University, Burnaby). First we will introduce a compressed sensing (CS) theory more compatible with real-life applications: we derive guarantees to ensure reconstruction of a structured sparse signal of interest while imposing structure in the acquisition (no Gaussian measurements here...). We will study how far those CS results are from oracle-type guarantees, and we will show that they are similar in terms of the required number of measurements. These results give an insight to design new optimal sampling strategies when realistic physical constraints are imposed in the acquisition.

Références

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