MA07-004 - Sparse Signals and Operators: Theory, Methods, and Applications (SPORTS)

Zusammenfassung

Sparse recovery (compressed sensing) is a very recent and active field of applied mathematics that has a high potential for many areas of signal processing and telecommunications.

The goals of the proposed project are
(1) to establish new mathematical results and algorithms in compressed sensing and
(2) to pioneer the use of compressed sensing methods in two applications of great economic relevance, namely, wireless communications and photoacoustic imaging.

The project is an interdisciplinary joint effort of three research groups in applied mathematics, wireless communications/signal processing, and laser spectroscopy/chemical imaging. The envisaged cross-fertilization of mathematics and the considered applications is expected to produce major advances in these applications and provide important new impulses to mathematics. The participating researchers will actively support the exploitation of project results by Viennese and other companies.

Schlagworte:
sparsity, compressed sensing, sparse reconstruction, inverse problems,reconstruction algorithms, matching pursuit, basis pursuit,operators, signal processing, wireless communications, channelestimation, channel sounding, photoacoustic imaging

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Co-Principal Investigator(s): Georg Tauböck (Vienna University of Technology



Status: Abgeschlossen (01.03.2008 – 28.02.2011)

Weiterführende Links zu den beteiligten Personen und zum Projekt finden Sie unter
https://wwtf.at/funding/programmes/past/ma/MA07-004/