

Group Seminar

Inverse Problems and Mathematical Imaging

Multiscale decompositions in imaging and inverse problems

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Abstract

We extend the hierarchical decomposition of an image as a sum of constituents of different scales, introduced by Tadmor, Nezzar and Vese in 2004, to a general setting. We develop a theory for multiscale decompositions which, besides extending the one of Tadmor, Nezzar and Vese to arbitrary L^2 functions, is applicable to a wide range of other imaging problems, such as image registration, or strictly related ones, such as nonlinear inverse problems.

This is a joint work with Klas Modin and Adrian Nachman.