Introduction to Inverse Problems

Prof. Antonio Emolo
12 hours – 3 CFU

When: 2022, Feb 28, Mar 1, 2 and 3, from 9.30 to 12.30

Where: room GE04 @DiSTAR (Building L3, ground floor)

Description of the Course

The course aims at providing fundamental understanding of parameter estimation and inverse problem philosophy and methodologies.
Theoretical aspects come with illustrative examples implemented numerically.
Main topics covered in the course are inverse problems characterization, L2 and L1 linear regression, Singular Value Decomposition, linearized inverse problems, numerical optimization techniques.

Prerequisites

Familiarity with linear algebra, differential equations, probability and statistics, and calculus.