

Inverse Theory, a Way for Solving or for Understanding Models?

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Abstract

Inverse problems are the problems where information is extracted from results. Thus they may be studied either as a way for deriving approximate solutions of the generally illposed problems of measurements or as a way of understanding the model which generated the ill posed problem and in some cases to modify its design. They may even be studied similarly on purely mathematical concepts. Hence one may put them in applied mathematics, mathematical physics and theoretical modelling, or pure mathematics, and these various aspects complete each other. In this lecture, some progress in this understanding of the problems will be illustrated on examples, so as to introduce those given in the conference.