Probabilistic Methods for Inverse Problems

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Inverse problems arise in many applications. Whatever the domain of application, when the unknown quantities on which we want to infer, and the quantities on which we can do measurements, and the mathematical relations linking them are identified, the problem then become inference. Deterministic regularization methods have been successfully developed and used. Two main difficulties still remain: How to choose the different criteria and how to weight them and how to quantify the uncertainties. In the three last decades, the probabilistic methods and, in particular, the Bayesian approach have shown their efficiency. The focus of this Special Issue is to have original papers on these probabilistic methods where the real advantages on regularization methods have been shown. The papers with real applications in different area such as biological and medical imaging, industrial nondestructive testing, radio astronomical, and geophysical imaging are preferred.

Prof. Dr. Ali Mohammad-Djafari
Guest Editor

Special Issue

Editor-in-Chief

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Message from the Editor-in-Chief

The concept of entropy is traditionally a quantity in physics that has to do with temperature. However, it is now clear that entropy is deeply related to information theory and the process of inference. As such, entropic techniques have found broad application in the sciences.

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