

Special Issue

Advanced Mathematical and Simulation Methods for Inverse Problems

Message from the Guest Editor

Inverse problems are studied in mathematics, science, and engineering, and they involve finding an unknown property of a medium or object from a probing excitation or observation. Inverse problems fit in with the Symmetry concept of this journal as they are the opposite of the associated forward problem, in which the causes are set and the effects are determined. Clearly, if a solution to an inverse problem is passed to the forward problem, then the original data should be returned at least approximately. A solution of an inverse problem is useful, as it can return information that is not measurable, for example, if the source is inaccessible or in the past. They have a wide range of applications, including acoustics, medical imaging, non-destructive testing, computer vision, remote sensing, radar, oceanography, and geophysics. Inverse problems are said to be ill-posed; there is usually no clear-cut solution, as there tends to be with forward problems...

Guest Editor

Dr. Stephen Kirkup

School of Engineering, University of Central Lancashire, Preston PR1 2HE, UK

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Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

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About the Journal

Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

Editor-in-Chief

Prof. Dr. Sergei Odintsov

1. ICREA, 08010 Barcelona, Spain

2. Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

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