
Inverse problems lie at the heart of contemporary scientific inquiry and technological development. Applications include a variety of medical and other imaging techniques, which are used for early detection of cancer and pulmonary edema, location of oil and mineral deposits in the Earth’s interior, creation of astrophysical images from telescope data, finding cracks and interfaces within materials, shape optimization, model identification in growth processes, and modeling in the life sciences, among others.

The expository survey essays in this book describe recent developments in inverse problems and imaging, including hybrid or couple-physics methods arising in medical imaging, Calderón’s problem and electrical impedance tomography, inverse problems arising in global seismology and oil exploration, inverse spectral problems, and the study of asymptotically hyperbolic spaces. The book is suitable for graduate students and researchers interested in inverse problems and their applications.

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