and implications of the obstruction are rapidly giving rise to entirely new lines of research. This was already outlined by Almeida and Molino [**3**] and, quite recently, confirmed by Weinstein [**10**]. The publication of the book is therefore very opportune and timely.

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Inverse spectral theory, by Jürgen Pöschel and Eugene Trubowitz. Academic Press, Orlando, 1987, x + 192 pp., $29.95. ISBN 0-12-563040-9

Inverse spectral theory and its close relative inverse scattering theory form an active branch of mathematics. The basic question addressed is: given certain data of spectral or scattering type, can one deduce what the underlying operator which governs the process is? Most commonly this becomes the question of determining an unknown coefficient function in operators of a given form. The unknown might be a potential or a mass distribution or even the shape of a scattering obstacle. Such problems are notoriously hard. They are sometimes ill-posed and the solutions may not be unique. Typically the problem has two parts: (I) to characterize the set of data which might arise from a given class of operators and (II) to find which coefficients give rise to a particular admissible data point.