

Abdulaziz D. Alhaidari, Eric J. Heller, Hashim A. Yamani, Mohamed S. Abdelmonem  
Editors

**The J-matrix Method**  
*Developments and Applications*

This volume aims to provide the fundamental knowledge to appreciate the advantage of the J-matrix method and to encourage its use and further development. The J-matrix method is an algebraic method of quantum scattering with substantial success in atomic and nuclear physics. The accuracy and convergence property of the method compares favourably with other successful scattering calculation methods. Despite its thirty year long history new applications are being found for the J-matrix method.

This book gives a brief account of the recent developments and some selected applications of the method in atomic and nuclear physics. New findings are reported in which experimental results are compared to theoretical calculations. Modifications, improvements and extensions of the method are discussed using the language of the J-matrix.

The volume starts with a Foreword by the two co-founders of the method, E.J. Heller and H.A. Yamani and it contains contributions from 24 prominent international researchers.

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