1.	Record Nr. Autore Titolo Pubbl/distr/stampa	UNINA9910736976203321 Das Tapan Kumar Hyperspherical Harmonics Expansion Techniques [[electronic resource]] : Application to Problems in Physics / / by Tapan Kumar Das New Delhi : , : Springer India : , : Imprint : Springer, , 2016
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	Descrizione fisica	1 online resource (170 p.)
	Collana	Theoretical and Mathematical Physics, , 1864-5879
	Disciplina	530.150285
	Soggetti	Physics Nuclear physics Heavy ions Mathematical physics Numerical and Computational Physics, Simulation Nuclear Physics, Heavy Ions, Hadrons Mathematical Methods in Physics Mathematical Physics
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Applications of this technique to various problems of physics have been discussed. In spite of straight forward generalization of the mathematical tools for increasing number of particles, the method becomes computationally difficult for more than a few particles. Hence various approximation methods have also been discussed. Chapters on the potential harmonics and its application to Bose-Einstein condensates (BEC) have been included to tackle dilute system of a large number of particles. A chapter on special numerical algorithms has also been provided. This monograph is a reference material for theoretical research in the few-body problems for research workers starting from advanced graduate level students to senior scientists.