Gravity: Where Do We Stand?

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This book presents an overview of the current understanding of gravitation, with a focus on the current efforts to test its theory, especially general relativity. It shows how the quest for a deeper theory, which would possibly incorporate gravity in the quantum realm, is more than ever an open field.

The majority of the contributions deals with the manifold facets of “experimental gravitation”, but the book goes beyond this and covers a broad range of subjects from the foundations of gravitational theories to astrophysics and cosmology.

The book is divided into three parts. The first part deals with foundations and Solar System tests. An introductory pedagogical chapter reviews first Newtonian gravitational theory, special relativity, the equivalence principle and the basics of general relativity. Then it focuses on approximation methods, mainly the post-Newtonian formalism and the relaxed Einstein equations, with a discussion on how they are used in treating experimental tests and in the problem of generation and detection of gravitational waves. Following this is a set of chapters describing the most recent experiments, techniques and observations on the testing of gravity theories in the laboratory, around the Earth and in the Solar System.

The second part is dedicated to astrophysical topics deeply linked with the study of gravitation, namely binary pulsars and the perspective of direct detection of gravitational waves. These cases are paradigmatic in that the gravitational signals act at the same time as messengers helping us to understand the properties of important and wide classes of astrophysical objects.

The third part explores the many open issues in current knowledge of gravitation machinery, especially related to astrophysical and cosmological problems and the way possible solutions to them impact the quest for a quantum theory of gravitation and unified theory. Included is a selection of the many possible paths, giving a hint to the subtleties one is called upon. Whenever possible, a close link to observational constraints and possible experimental tests is provided.

In selecting the topics of the various contributions, particular care has been devoted to ensure their fit in a coherent representation of our understanding of gravitational phenomena. The book is aimed at graduate level students and will form a valuable reference for those working in the field.

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Book is to be different for each grade. Book for children right up until adult are different content. As we know that book is very important normally. The book Gravity: Where Do We Stand? has been making you to know about other information and of course you can take more information. It is very advantages for you. The book Gravity: Where Do We Stand? is not only giving you much more new information but also to get your friend when you experience bored. You can spend your personal spend time to read your publication. Try to make relationship with the book Gravity: Where Do We Stand?. You never sense lose out for everything if you read some books.

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Gravity: Where Do We Stand? can be one of your basic books that are good idea. Many of us recommend that straight away because this book has good vocabulary which could increase your knowledge in words, easy to understand, bit entertaining but nevertheless delivering the information. The writer giving his/her effort to put every word into joy arrangement in writing Gravity: Where Do We Stand? however doesn't forget the main place, giving the reader the hottest in addition to based confirm resource data that maybe you can be one among it. This great information could drawn you into fresh stage of crucial pondering.

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