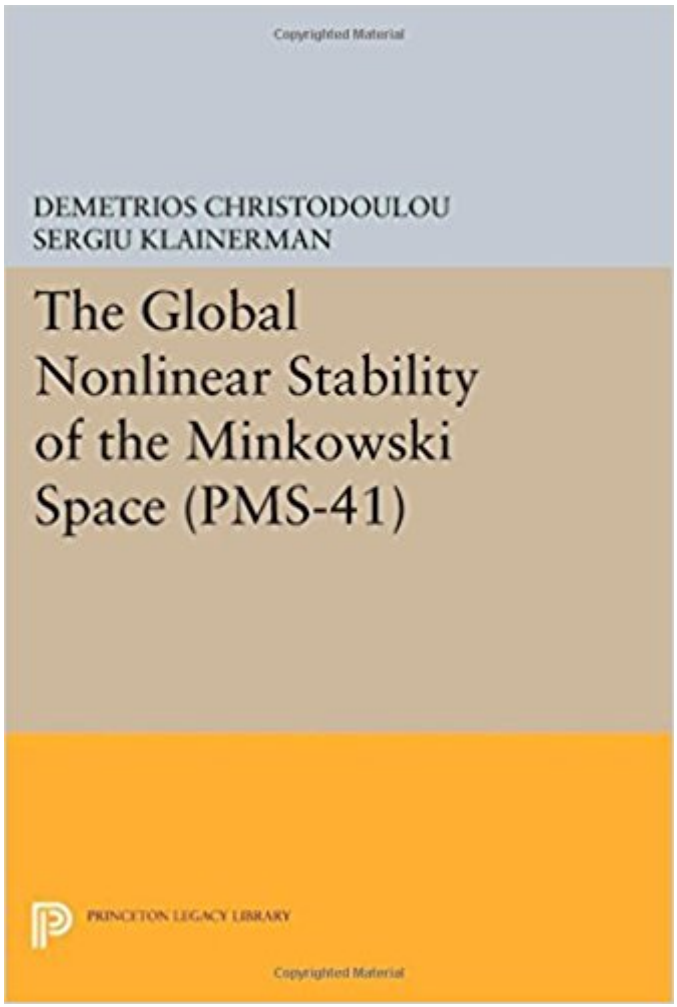
The Global Nonlinear Stability Of The Minkowski Space (PMS-41) (Princeton Legacy Library)



Synopsis

The aim of this work is to provide a proof of the nonlinear gravitational stability of the Minkowski space-time. More precisely, the book offers a constructive proof of global, smooth solutions to the Einstein Vacuum Equations, which look, in the large, like the Minkowski space-time. In particular, these solutions are free of black holes and singularities. The work contains a detailed description of the sense in which these solutions are close to the Minkowski space-time, in all directions. It thus provides the mathematical framework in which we can give a rigorous derivation of the laws of gravitation proposed by Bondi. Moreover, it establishes other important conclusions concerning the nonlinear character of gravitational radiation. The authors obtain their solutions as dynamic developments of all initial data sets, which are close, in a precise manner, to the flat initial data set corresponding to the Minkowski space-time. They thus establish the global dynamic stability of the latter.Originally published in 1994.The Princeton Legacy Library uses the latest print-on-demand technology to again make available previously out-of-print books from the distinguished backlist of Princeton University Press. These editions preserve the original texts of these important books while presenting them in durable paperback and hardcover editions. The goal of the Princeton Legacy Library is to vastly increase access to the rich scholarly heritage found in the thousands of books published by Princeton University Press since its founding in 1905.

Book Information

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Customer Reviews

Winner of the 1999 Bocher Memorial Prize, American Mathematical Association"This book presents

the authors' theorem on the stability of Minkowski space, a landmark in the development of mathematical relativity. The book is quite self-contained.... The book is not easy to read, due to the very technical nature of its contents, but under the circumstances the quality of the exposition is excellent."--Mathematical Reviews

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