



# Introduction to Practical Peridynamics: Computational Solid Mechanics Without Stress and Strain (Frontier Research in Computation and Mechanics of Materials)

*By Walter Herbert Gerstle*

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## Introduction to Practical Peridynamics: Computational Solid Mechanics Without Stress and Strain (Frontier Research in Computation and Mechanics of Materials) By Walter Herbert Gerstle

Parting with the classical continuum concepts of stress and strain in the computational simulation of solids, this book proposes a peridynamic model that applies the model directly to particle lattices. The model is directly solvable on a computer. Introduction to Practical Peridynamics is both a graduate-level textbook and a treatise. The text provides the necessary foundations to understand and apply the state-based peridynamic lattice model, as well as a guide for the practical use of the model for solving realistic structural engineering problems (particularly in reinforced concrete structures) in elasticity, plasticity, damage, fracture, and large deformations. Contents in this book include introductory chapters presenting the historical background of the subject; classical elasticity; computational solid modeling; continuum mechanics; fracture mechanics; particle dynamics simulations on parallel computers; as well as example simulations (with model applications).

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## **Editorial Review**

From the Inside Flap

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## **Users Review**

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**Henry Knight:**

The reason why? Because this Introduction to Practical Peridynamics: Computational Solid Mechanics Without Stress and Strain (Frontier Research in Computation and Mechanics of Materials) is an unordinary book that the inside of the book waiting for you to snap the idea but latter it will zap you with the secret the idea inside. Reading this book beside it was fantastic author who else write the book in such awesome way makes the content inside of easier to understand, entertaining means but still convey the meaning totally. So , it is good for you for not hesitating having this nowadays or you going to regret it. This phenomenal book will give you a lot of advantages than the other book have got such as help improving your talent and your critical thinking means. So , still want to hesitate having that book? If I ended up you I will go to the book store hurriedly.

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