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Sommario/riassunto	This book explains the theory, numerical modeling, and applications of a borehole electromagnetic telemetry system used for wireless communication between the downhole tool and the surface control center during oilfield drilling. The authors begin by introducing borehole electromagnetic telemetry and explaining each part of the system with schematics and illustrations. They describe the working principle and compare it with other borehole wireless communication methods, such as mud pulse telemetry. They then address 2D and 3D electromagnetic telemetry modelling, listing previous 2D and 3D modeling methods and detailing the advantages and limitations, before discussing their recent work on a novel layered finite element method for 2D electromagnetic telemetry modelling, and on 3D electromagnetic modelling based on integral equation, thin wire kernel, and layered medium Green’s functions. Lastly, the authors show applications of electromagnetic telemetry, including single well

borehole wireless communication and cross well communication in pad drilling. This includes photos, figures, and field data from real oilfield jobs. This book is a useful reference for drilling engineers, well logging tool research and development scientists and researchers, as well as for students in the areas of petroleum engineering and electrical engineering.