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	Nota di contenuto	Motivating Ideas : General Formulation and Results -- Detailed Theory and Numerical Analysis -- Validations : Qualitative Benchmarks -- Validations : Quantitative Benchmarks at 0 [degrees] and 90 [degrees] -- Quantitative Benchmarks at Deviated Angles -- Validations : Quantitative Benchmarks at Deviated Angles with Borehole Mud and Eccentricity -- Validations : Receiver Voltage Response and Apparent Resistivity -- Simulator Overview and Feature Summary -- Simulator Tutorials and Validation Problems.
	Sommario/riassunto	"Almost all publications on borehole electromagnetics deal with idealizations that are not acceptable physically, and unfortunately, even these models are company proprietary. On the other hand, 'exact models' are only available through detailed finite element or finite difference analysis, and more often than not, simply describe case studies for special applications. In either case, the models are not available for general use and the value of the publications is questionable. This new approach provides a rigorous, fully three-dimensional solution to the general problem, developed over almost

two decades by a researcher familiar with practical applications and mathematical modeling. Completely validated against exact solutions and physics-based checks through over a hundred documented examples, the self-contained model (with special built-in matrix solvers and iteration algorithms) with a 'plain English graphical user interface' has been optimized to run extremely fast--seconds per run as opposed to minutes and hours--and then automatically presents all electric and magnetic field results through integrated three-dimensional color graphics. In addition to state-of-the-art algorithms, basic 'utility programs' are also developed, such as simple dipole methods, Biot-Savart large diameter models, nonlinear phase and amplitude interpolation algorithms, and so on. Incredibly useful to oilfield practitioners, this volume is a must-have for serious professionals in the field, and all the algorithms have undergone a laborious validation process with real use in the field"--

"The book explains why the completely new model succeeds where others fail, and demonstrates through numerous validated examples several suites of important 'hands on' applications"--