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4.7. Behavior of the field on the borehole axis in the near and far zones; 4.8. Frequency responses of the magnetic field of the vertical magnetic dipole on the borehole axis; 4.9. Influence of finite dimensions of induction probe coils; 4.10. Electrical field of a current ring in a medium with cylindrical interfaces  
4.11. Radial responses of two-coil induction probes displaced with respect to the borehole axis  
4.12. The influence of magnetic permeability and dielectric constant in induction logging; Chapter 5. Quasistationary magnetic field of a vertical magnetic dipole in a formation with a finite thickness; 5.1. Derivation of formulae for the vertical component of the magnetic field of a vertical magnetic dipole; 5.2. The vertical responses of the two-coil induction probe in the range of small parameters; 5.3. The theory of the two-coil induction probe in beds with a finite thickness  
5.4. Curves of profiling with a two-coil induction probe in a medium with two horizontal interfaces  
Chapter 6. The two-coil induction probe on the borehole axis, when the bed has a finite thickness; 6.1. Doll's theory of the two-coil induction probe located on the borehole axis when a formation has a finite thickness; 6.2. The theory of a two-coil induction probe, taking into account the skin effect in an external medium; 6.3. Influence of the finite thickness of the formation on the magnetic field behavior; Chapter 7. Multi-coil differential induction probes  
7.1. Methods of determination of probe parameters

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Sommario/riassunto

The monograph introduces the reader to the world of inductive well logging - an established method for surveying the electrical conductivity of rocks surrounding a borehole. The emphasis is on developing a theory of inductive logging and on understanding logging tools basic physics, since this theory and understanding furnish valuable insights for inventing practical induction logging techniques. The first chapter of the book presents the basic laws of electromagnetism from a point of view that will facilitate the application of the theory to problems in electromagnetic logging. Man

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