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Nota di contenuto	Chapter 1. Introduction -- Part 1: Corrosion Of Onshore Pipeline -- Chapter 2. Onshore pipeline basic context -- Chapter 3. The problem

of corrosion in pipelines -- Chapter 4. How corroded pipelines fail and how are they modeled? -- Part 2: Uncertainty In Corrosion Modeling -- Chapter 5. Uncertainty in the assessment of corroded pipelines -- Chapter 6. Spatial statistical analysis: A “blind-approach” -- Chapter 7. Identification and modeling of new defects -- Chapter 8. Modeling reliability for pipeline corrosion -- Part 3: Real Case Study Application -- Chapter 9. Case study: Description and analysis for corrosion main features -- Chapter 10. Spatial statistical “blind-approach” results -- Chapter 11. New defects between inspections and their spatial features -- Chapter 12. Spatial and time-dependent reliability assessment: Identification of critical segments.

Sommario/riassunto

This book provides the most up-to-date, advanced methods and tools for risk assessment of onshore pipelines. These methods and tools are based primarily on information collected from ILI measurements and additional information about the soil surrounding the pipeline. The book provides a better understanding how the defects grow and interact (repulsion or attraction) and their spatial variability. In addition, the authors contemplate new defects that evolve between inspections and how they could affect the pipeline's reliability. A real-world case is presented to reinforce the concepts presented in the book. The book is structured into three parts: i) an introduction to onshore pipelines and the problem of corrosion, ii) a framework that deals with uncertainty for integrity programs for corroded pipelines, and iii) the applications of the methods presented in the book. The book is ideal for researchers and field engineers in oil and gas transportation and graduate and undergraduate engineering students interested in pipeline reliability assessments, spatial variability, and risk-based inspections. Presents methods to study corrosion defects at different scales: full-pipe, segmented, and defect-based; Explains an alternative method to handle new defects between ILI measurements in terms of their location and evolution; Develops a reliability approach that recognizes spatial and temporal variability of the corrosion attack in pipelines.