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	Nota di contenuto	Introduction -- Concepts of the cone model -- Initial cone with outward wave propagation -- Wave reflection and refraction at a material discontinuity -- Foundation embedded in a layered half-space -- Evaluation of accuracy -- Engineering applications -- Concluding remarks -- Appendix A: Frequency-domain response analysis -- Appendix B: Dynamic soil-structure interaction -- Appendix C: Wave propagation in a semi-infinite prismatic bar -- Appendix D: Historical note -- Appendix E: Program CONAN (CONe ANalysis)--user's guide -- Appendix F: MATLAB procedures for cone analysis.
	Sommario/riassunto	Structural analysis is usually carried out by a strength-of-materials approach that allows complex 3-D structures to be modelled adequately for design needs in a single dimension. However, this approach is not extensively used in geotechnical engineering, partly because 3-D media (soil, rock) are present, but more importantly because until recently the methods necessary to carry out this form of analysis did not exist. In the last ten years efforts at modelling practical problems in foundation analysis using a strength-of-materials approach have developed the concept of the conical bar or beam as a tool. Such cone models can be used to model a foundation in a dynamic soil-structure interaction analysis with a variation of the

properties with depth. This book develops this new approach from scratch in a readable and accessible manner. A systematic evaluation for a wide range of actual sites demonstrates sufficient engineering accuracy. A short computer program written in MATLAB and a user-friendly executable program are provided, while practical examples ensure a clear understanding of the topic. *Simplifies complex 3-D analysis of soil-structure interaction. *Applies strength-of-materials approach to geotechnical engineering. *Illustrated with practical examples. *Executable program and MATLAB program for foundation vibration analysis