

1. Record Nr.	UNINA9911004817803321
Autore	Ikelle Luc T
Titolo	Introduction to Petroleum Seismology
Pubbl/distr/stampa	[Place of publication not identified], : Society of Exploration Geophysicists, 2005
ISBN	1-5231-1612-9 1-56080-170-0
Descrizione fisica	1 online resource (xxv, 679 pages) : illustrations
Collana	Investigations in geophysics
Disciplina	622/.1828
Soggetti	Seismic prospecting
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph
Nota di bibliografia	Includes bibliographical references and index.
Sommario/riassunto	Provides the basic theoretical and practical background needed to tackle present and future challenges of petroleum seismology, especially those related to seismic data acquisition and imaging and to reservoir characterization and monitoring. The first part of the book evolves from first principles of physics to the fundamentals of elastodynamic wave propagation, the building blocks for seismic analysis. The second part discusses modern developments in petroleum seismology such as multicomponent data, multiple elimination, amplitude variation with offset and azimuth analysis and inversion, anisotropy, and linear anelasticity. Aspects of Fourier and wavelet representations of seismic signals and the fundamentals of higher-order statistics for analyzing seismic signals also are treated. The comprehensiveness of this book makes it a suitable text for undergraduate and graduate courses that target geophysicists and engineers as well as a guide and reference work for researchers and professionals in academia and in the petroleum industry. The book is illustrated with color figures and provides a wide range of examples and problems.