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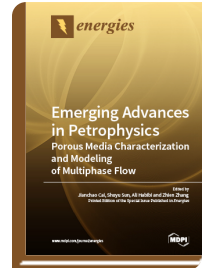
## **Emerging Advances in Petrophysics**

[www.mdpi.com/books/reprint/1251](http://www.mdpi.com/books/reprint/1251)

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ISBN 978-3-03897-794-0 (Softback)

ISBN 978-3-03897-795-7 (PDF)



Due to the influence of pore-throat size distribution, pore connectivity, and microscale fractures, the transport, distribution, and residual saturation of fluids in porous media are difficult to characterize. Petrophysical methods in natural porous media have attracted great attention in a variety of fields, especially in the oil and gas industry. A wide range of research studies have been conducted on the characterization of porous media covers and multiphase flow therein. Reliable approaches for characterizing microstructure and multiphase flow in porous media are crucial in many fields, including the characterization of residual water or oil in hydrocarbon reservoirs and the long-term storage of supercritical CO<sub>2</sub> in geological formations. This book gathers together 15 recent works to emphasize fundamental innovations in the field and novel applications of petrophysics in unconventional reservoirs, including experimental studies, numerical modeling (fractal approach), and multiphase flow modeling/simulations. The relevant stakeholders of this book are authorities and service companies working in the petroleum, subsurface water resources, air and water pollution, environmental, and biomaterial sectors.



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