# PALEOSTRESS INVERSION TECHNIQUES

## Methods and Applications for Tectonics

### Christophe Pascal

A practical guide on paleostress inversion techniques

After reviewing fundamental geological aspects concerning natural fractures and introducing basic mechanical theories, *Paleostress Inversion Techniques: Methods and Applications for Tectonics* introduces the methodologies developed to reconstruct (paleo)stress tensors from geological data. The interest and potential outcomes of the methods are illustrated using practical examples. Recommendations and guidelines conclude the book.

This book is an ideal reference for both academics and industry researchers in earth sciences. Paleostress inversion methods are particularly useful in tectonic analyses at regional and local scales, and their outcomes are relevant when trying to predict the orientations of fracture sets and potential fluid flow paths and associated mineralisations. As such, they represent a valuable tool for exploration geologists and geophysicists in mining, oil and geothermal industries.

#### **Key Features**

- Includes detailed explanations of the methods, along with concrete applications of paleostress inversion techniques
- Clearly illustrates the outcomes, advantages and limitations of the techniques
- Serves as a practical guide for both academics and industry researchers interested in structural geology, geodynamics and tectonics

#### **About the Author**

Christophe Pascal is Professor of Structural Geology at the Ruhr University Bochum, Germany. He received an initial education in theoretical physics before studying geosciences. In 1998, he defended a PhD thesis in quantitative tectonics supervised by Prof. Jacques Angelier, one of the most renowned specialists in paleostress inversion techniques. He has successively worked at the Free University, Amsterdam, as a postdoctoral fellow, and at the Geological Survey of Norway as a senior researcher. Throughout his scientific career, he has focused on the use and development of quantitative approaches to investigate tectonic problems.



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