

# Contents

## Part I Active Faults

<b>1 Examination of the Correlation Between Tectonic Landforms and Shallow Subsurface Structural Datasets for the Estimation of Seismic Source Faults</b> . . . . .	3
Takashi Kumamoto, Masatoshi Fujita, Hideaki Goto, and Takashi Nakata	
<b>2 Multivariate Statistical Analysis for Seismotectonic Provinces Using Earthquake, Active Fault, and Crustal Structure Datasets</b> . . .	31
Takashi Kumamoto, Masataka Tsukada, and Masatoshi Fujita	
<b>3 Multiple Regression Analysis for Estimating Earthquake Magnitude as a Function of Fault Length and Recurrence Interval</b> . . . . .	43
Takashi Kumamoto, Kozo Oonishi, Yoko Futagami, and Mark W. Stirling	
<b>4 Coseismic Tsunami Simulation Assuming the Displacement of High-Angle Branching Active Faults Identified on the Continental Slope Around the Japan Trench</b> . . . . .	55
Shota Muroi and Takashi Kumamoto	
<b>5 Extensive Area of Topographic Anaglyphs Covering Inland and Seafloor Derived Using a Detailed Digital Elevation Model for Identifying Broad Tectonic Deformations</b> . . . . .	65
Hideaki Goto	

## Part II Seismic Source Modeling and Seismic Motion

- 6 Relation Between Stress Drops and Depths of Strong Motion Generation Areas Based on Previous Broadband Source Models for Crustal Earthquakes in Japan** . . . . . 77  
Toshimi Satoh and Atsushi Okazaki
- 7 Heterogeneous Dynamic Stress Drops on Asperities in Inland Earthquakes Caused by Very Long Faults and Their Application to the Strong Ground Motion Prediction** . . . . . 87  
Kazuo Dan, Masanobu Tohdo, Atsuko Oana, Toru Ishii, Hiroyuki Fujiwara, and Nobuyuki Morikawa
- 8 Simulation of Broadband Strong Motion Based on the Empirical Green's Spatial Derivative Method** . . . . . 99  
Michihiro Ohori

## Part III Probabilistic Risk Assessment with External Hazards

- 9 Development of Risk Assessment Methodology Against External Hazards for Sodium-Cooled Fast Reactors** . . . . . 111  
Hidemasa Yamano, Hiroyuki Nishino, Yasushi Okano, Takahiro Yamamoto, and Takashi Takata
- 10 Effectiveness Evaluation About the Tsunami Measures Taken at Kashiwazaki-Kariwa NPS** . . . . . 123  
Masato Mizokami, Takashi Uemura, Yoshihiro Oyama, Yasunori Yamanaka, and Shinichi Kawamura
- 11 Development of a New Mathematical Framework for Seismic Probabilistic Risk Assessment for Nuclear Power Plants – Plan and Current Status –** . . . . . 137  
Hitoshi Muta, Ken Muramatsu, Osamu Furuya, Tomoaki Uchiyama, Akemi Nishida, and Tsuyoshi Takada

## Part IV Nuclear Risk Governance in Society

- 12 Deficits of Japanese Nuclear Risk Governance Remaining After the Fukushima Accident: Case of Contaminated Water Management** . . . . . 157  
Kohta Juraku
- 13 A Community-Based Risk Communication Approach on Low-Dose Radiation Effect** . . . . . 171  
Naoki Yamano