

# Contents

Contributors	vii		
Acknowledgments	ix		
Introduction	x		
<b>PART I: Theoretical Advances and New Methods</b>			
1 From finite to incremental strain: Insights into heterogeneous shear zone evolution <i>Stefano Vitale and Stefano Mazzoli</i>	3	8 Brittle-ductile shear zones along inversion-related frontal and oblique thrust ramps: Insights from the Central–Northern Apennines curved thrust system (Italy) <i>Paolo Pace, Fernando Calamita, and Enrico Tavarnelli</i>	111
2 How far does a ductile shear zone permit transpression? <i>Sujoy Dasgupta, Nibir Mandal, and Santanu Bose</i>	14	9 Microstructural variations in quartzofeldspathic mylonites and the problem of vorticity analysis using rotating porphyroclasts in the Phulad Shear Zone, Rajasthan, India <i>Sudipta Sengupta and Sadhana M. Chatterjee</i>	128
3 2D model for development of steady-state and oblique foliations in simple shear and more general deformations <i>Kieran F. Mulchrone, Patrick A. Meere, and Dave J. McCarthy</i>	30	10 Mineralogical, textural, and chemical reconstitution of granitic rock in ductile shear zones: A study from a part of the South Purulia Shear Zone, West Bengal, India <i>Nandini Chattopadhyay, Sayan Ray, Sanjoy Sanyal, and Pulak Sengupta</i>	141
4 Ductile deformation of single inclusions in simple shear with a finite-strain hyperelastoviscoplastic rheology <i>Christoph Eckart Schrank, Ali Karrech, David Alexandre Boutelier, and Klaus Regenauer-Lieb</i>	46	11 Reworking of a basement–cover interface during Terrane Boundary shearing: An example from the Khariar basin, Bastar craton, India <i>Subhadip Bhadra and Saibal Gupta</i>	164
5 Biviscous horizontal simple shear zones of concentric arcs (Taylor–Couette flow) with incompressible Newtonian rheology <i>Soumyajit Mukherjee and Rakesh Biswas</i>	59	12 Intrafolial folds: Review and examples from the western Indian Higher Himalaya <i>Soumyajit Mukherjee, Jahnvi Narayan Punekar, Tanushree Mahadani, and Rupsa Mukherjee</i>	182
<b>PART II: Examples from Regional Aspects</b>		13 Structure and Variscan evolution of Malpica–Lamego ductile shear zone (NW of Iberian Peninsula) <i>Jorge Pamplona, Benedito C. Rodrigues, Sergio Llana-Fúnez, Pedro Pimenta Simões, Narciso Ferreira, Carlos Coke, Eurico Pereira, Paulo Castro, and José Rodrigues</i>	206
6 Quartz-strain-rate-metry (QSR), an efficient tool to quantify strain localization in the continental crust <i>Emmanuelle Boutonnet and Phillipe-Hervé Leloup</i>	65	14 Microstructural development in ductile deformed metapelitic–metapsamitic rocks: A case study from the greenschist to granulite facies megashear zone of the Pringles Metamorphic Complex, Argentina <i>Sergio Delpino, Marina Rueda, Ivana Urraza, and Bernhard Grasemann</i>	224
7 Thermal structure of shear zones from Ti-in-quartz thermometry of mylonites: Methods and example from the basal shear zone, northern Scandinavian Caledonides <i>Andrea M. Wolfowicz, Matthew J. Kohn, and Clyde J. Northrup</i>	93		

<b>15</b> Strike-slip ductile shear zones in Thailand <i>Pitsanupong Kanjanapayont</i>	250	<b>17</b> Flanking structures as shear sense indicators in the Higher Himalayan gneisses near Tato, West Siang District, Arunachal Pradesh, India <i>Tapos Kumar Goswami and Sukumar Baruah</i>	293
<b>16</b> Geotectonic evolution of the Nihonkoku Mylonite Zone of north central Japan based on geology, geochemistry, and radiometric ages of the Nihonkoku Mylonites: Implications for Cretaceous to Paleogene tectonics of the Japanese Islands <i>Yutaka Takahashi</i>	270	Index	302