

Tracy J. Vogler • D. Anthony Fredenburg
Editors

Shock Phenomena in Granular and Porous Materials

 Springer

Contents

Part I Fundamental Aspects

| | |
|--|----|
| Equation of State Modeling for Porous Materials | 3 |
| Travis Sjostrom | |
| Low-Pressure Dynamic Compression Response of Porous Materials | 29 |
| D. Anthony Fredenburg and Tracy J. Vogler | |
| Continuum Modeling of Partially Saturated Soils | 63 |
| Biswajit Banerjee and Rebecca Brannon | |

Part II Applications

| | |
|--|-----|
| Planetary Impact Processes in Porous Materials | 103 |
| Gareth S. Collins, Kevin R. Housen, Martin Jutzi, and Akiko M. Nakamura | |
| Recent Insights into Penetration of Sand and Similar Granular Materials | 137 |
| Mehdi Omidvar, Stephan Bless, and Maged Iskander | |
| Applications of Reactive Materials in Munitions | 165 |
| Suhithi M. Peiris and Nydeia Bolden-Frazier | |

Part III Emerging Areas

| | |
|--|-----|
| X-Ray Phase Contrast Imaging of Granular Systems | 195 |
| B. J. Jensen, D. S. Montgomery, A. J. Iverson, C. A. Carlson, B. Clements, M. Short, and D. A. Fredenburg | |
| Shock Compression of Porous Materials and Foams Using Classical Molecular Dynamics | 231 |
| J. Matthew D. Lane | |
| Additively Manufactured Cellular Materials | 255 |
| Ron Winter and Graham McShane | |