1. Record Nr. UNISALENTO991001644939707536

| | |
|---|---|
| Autore | Kirby, Brian J. |
| Titolo | Micro- and nanoscale fluid mechanics : transport in microfluidic devices / Brian Kirby |
| Pubbl/distr/stampa | New York : Cambridge University Press, 2010 |
| ISBN | 9780521119030 |
| Descrizione fisica | xxiii, 512 p. : ill. ; 26 cm |
| Disciplina | 620.1064 |
| Soggetti | Microfluidic devices<br>Microfluidics<br>Nanofluids |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di bibliografia | Includes bibliographical references and index |
| Nota di contenuto | Machine generated contents note: 1. Kinematics, conservation equations, and boundary conditions for incompressible flow; 2. Unidirectional flow; 3. Hydraulic circuit analysis; 4. Passive scalar transport: dispersion, patterning, and mixing, 5. Electrostatics and electrodynamics; 6. Electroosmosis; 7. Potential fluid flow; 8. Stikes flow; 9. The diffuse structure of the electrical double layer; 10. Zeta potential in microchannels; 11. Species and charge transport; 12. Microchip chemical separations; 13. Particle electrophoresis; 14. DNA transport and analysis; 15. Nanofluidics: fluid and current flow in molecular-scale and thick-double-layer systems; 16. AC electrokinetics and the dynamics of diffuse charge; 17. Particle and droplet actuation: dielectrophoresis, magnetophoresis, and digital microfluidics; A. Units and fundamental constants; B. Properties of electrolyte solutions; C. Coordinate systems and vector calculus; D. Governing equation reference; E. Nondimensionalization and characteristic parameters; F. Multipolar solutions to the Laplace and Stokes equations; G. Complex functions; H. Interaction potentials: atomistic modeling of solvents and solutes |