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| | Autore | Zadnikar, Marijan |
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| | Pubbl/distr/stampa | Ljubljana : [Druzina], 1961 |
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| | Autore | DeGraw Sharon |
| | Titolo | The subject of race in American science fiction / / Sharon DeGraw |
| | Pubbl/distr/stampa | New York, NY : , : Routledge, Taylor & Francis Group, , [2007] |
| | Descrizione fisica | 1 online resource |
| | Collana | Literary Criticism and Cultural Theory |
| | Disciplina | 813/.0876209355 |
| | Soggetti | Race in literature
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Autore	Gaskell David R.
Titolo	An introduction to transport phenomena in materials engineering / / David R. Gaskell
Pubbl/distr/stampa	New Jersey : , : Momentum Press, LLC, , 2012
ISBN	1-283-89611-7 1-60650-357-X
Edizione	[Second edition.]
Descrizione fisica	1 online resource (686 p.)
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Soggetti	Mass transfer Materials - Fluid dynamics
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Formato	Materiale a stampa
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Note generali	Includes index.
Nota di bibliografia	Includes bibliographical references (p. 642-643) and index.
Nota di contenuto	List of symbols -- 1. Engineering units and pressure in static fluids -- 1.1 Origins of engineering units -- 1.2 Concept of pressure -- 1.3 Measurement of pressure -- 1.4 Pressure in incompressible fluids -- 1.5 Buoyancy -- 1.6 Summary -- Problems -- 2. Momentum transport and laminar flow of Newtonian fluids -- 2.1 Introduction -- 2.2 Newton's law of viscosity -- 2.3 Conservation of momentum in steady-state flow -- 2.4 Fluid flow between two flat parallel plates -- 2.5 Fluid flow down in inclined plane -- 2.6 Fluid flow in a vertical cylindrical tube -- 2.7 Capillary flowmeter -- 2.8 Fluid flow in an annulus -- 2.9 Mean residence time -- 2.10 Calculation of viscosity from the kinetic theory of gases -- 2.11 Viscosities of liquid metals -- 2.12 Summary -- Problems -- 3. Equations of continuity and conservation of momentum and fluid flow past submerged objects -- 3.1 Introduction -- 3.2 Equation of continuity -- 3.3 Conservation of momentum -- 3.4 Navier-Stokes equation for fluids of constant density and viscosity -- 3.5 Fluid flow over a horizontal flat plane -- 3.6 Approximate integral method in obtaining boundary layer thickness -- 3.7 Creeping flow past a sphere -- 3.8 Summary -- Problems -- 4. Turbulent flow -- 4.1 Introduction -- 4.2 Graphical representation of fluid flow -- 4.3 Friction factor and turbulent flow in cylindrical pipes

-- 4.4 Flow over a flat plate -- 4.5 Flow past a submerged sphere --
 4.6 Flow past a submerged cylinder -- 4.7 Flow through packed beds
 -- 4.8 Fluidized beds -- 4.9 Summary -- Problems --

5. Mechanical energy balance and its application to fluid flow -- 5.1
 Introduction -- 5.2 Bernoulli's equation -- 5.3 Friction loss, E_f -- 5.4
 Influence of bends, fittings, and changes in the pipe radius -- 5.5
 Concept of head -- 5.6 Fluid flow in an open channel -- 5.7 Drainage
 from a vessel -- 5.8 Emptying a vessel by discharge through an orifice
 -- 5.9 Drainage of a vessel using a drainage tube -- 5.10 Emptying a
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 -- 5.14 Summary -- Problems --

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 sources -- 6.5 Thermal conductivity and the kinetic theory of gases --
 6.6 General heat conduction equation -- 6.7 Conduction of heat at
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 with uniform heat flux along the plate -- 7.4 Heat transfer during fluid
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 transfer by forced convection from a sphere -- 7.8 General energy
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 finite systems -- 8.6 Solidification of metal castings -- 8.7 Summary --
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 Intensity and emissive power -- 9.3 Blackbody radiation -- 9.4
 Emissivity -- 9.5 Absorptivity, reflectivity, and transmissivity -- 9.6
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 Radiation exchange between diffuse-gray surfaces -- 9.10 Electric
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11. Mass transport in fluids -- 11.1 Introduction -- 11.2 Mass and
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 One-dimensional steady-state diffusion of gas A through stationary

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12. Condensation and boiling -- 12.1 Introduction -- 12.2 Dimensionless parameters in boiling and condensation -- 12.3 Modes of boiling -- 12.4 Pool boiling correlations -- 12.5 Summary -- Problems --

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Sommario/riassunto

In their classic text, Transport Phenomena, Bird, Stewart, and Lightfoot state their opinion that the subject of transport phenomena should rank along with thermodynamics, mechanics, and electromagnetism as one of the "key engineering sciences." This thought was not shared by many traditional metallurgists, and diffusion in the solid state was the only aspect of transport phenomena included in many traditional university metallurgy curricula. However, as metallurgists transformed themselves into materials scientists and engineers, and the artificial barriers between the various engineering disciplines were lowered, the materials engineers began to see the truth in the opinion of Bird, Stewart, and Lightfoot. The major difference, however, between the first and this edition is that this edition contains an additional chapter, Chapter 12, titled "Boiling and Condensation." The material presented in this chapter is particularly important in view of the current interest in Renewal Energy Resources involving such devices as windmills and solar panels. Developments in this field require a thorough familiarity with the phenomena and mechanisms of boiling and condensation.
