

CONTENTS

1. General theory of transport processes related to fluid flow through porous media	
Thermodynamic analogy of mass transport processes in porous media..... <i>Scheidegger, A. E. and Liao, K. H.</i>	3
The influence of pore structure on the pressure and temperature dependence of the effective diffusion coefficient..... <i>Hugo, P.</i>	14
Stationary heat transport by plane groundwater movement in a thin or a thick layer..... <i>Verruijt, A.</i>	25
The significance of the net transfer of viscous stress energy and the local production of kinetic energy in stationary soil water flow <i>Groenevelt, P. H.</i>	36
On the correlation of electrical conductivity properties of porous systems with viscous flow transport coefficients <i>Pfannkuch, H-O.</i>	42
Some aspects of heat and mass transfer in porous media.. <i>Dagan, G.</i>	55
2. Deterministic and statistical characterization of porous media, and computational methods of analysis	
Study of accessibility of pores in porous media.. <i>Dullien, F. A. L.</i>	67
On the plane steady flow through inhomogeneous porous media <i>Gheorghitza, St. I.</i>	73
A numerical study of the nonlinear laminar regime of flow in an idealized porous medium..... <i>Stark, K.P.</i>	86
Problems concerning solution of steady and unsteady groundwater flow by statistical methods..... <i>Halek, V. and Novak, M.</i>	103
Fundamentals of the continuum approach for calculation of rate-independent deformations of particulate media... <i>Gudehus, G.</i>	119
Deterministic and statistical characterization of porous media and computational methods of analysis..... <i>Scheidegger, A. E.</i>	129
The reciprocity principle in flow through heterogeneous porous media..... <i>G. A. Bruggeman</i>	136
3. Theory of coupled processes in porous media, including heat and mass transfer and polyphase flow phenomena	
Étude expérimentale de la convection naturelle en milieu poreux <i>Thirriot, C. et Bories, S.</i>	153
Growth of a vapour bubble in a porous medium... <i>Bankoff, S. G.</i>	166
Simultaneous flow of immiscible liquids in a fractured medium <i>Baer, J. and Braester, C.</i>	177

Sur les équations de la magnétohydrodynamique des milieux poreux <i>Ene, H. I.</i>	203
Transfer properties and friction coefficients for salt and water flow through clays..... <i>Banin, A.</i>	212
On stabilization of fingers in a slightly cracked heterogeneous porous medium..... <i>Verma, A. P.</i>	221
Some problems connected with the use of classical descriptions of fluid/fluid displacement processes..... <i>Rose, W. D.</i>	229
Permiselective properties of porous materials as calculated from diffuse double layer theory.... <i>Groenevelt, P. H. and Bolt, G. H.</i>	241
4. Hydrodynamic dispersion in porous media	
The tensor character of the dispersion coefficient in anisotropic porous media..... <i>De Josselin de Jong, G.</i>	259
On the derivation of a convective-dispersion equation by spatial averaging..... <i>Rumer, R. R. Jr.</i>	268
Sur le déplacement bidimensionnel des fluids miscibles dans les milieux poreux..... <i>Oroveanu, T. et Spulber, I.</i>	276
5. Problems of permeability, matrix deformability, consolidation, an- isotropy and heterogeneity	
Vertical and horizontal laboratory permeability measurements in clay soils..... <i>Wilkinson, W. B. and Shipley, E. L.</i>	285
The flow of air and water in partly saturated clay soil..... <i>Barden, L., Madedor, A. O. and Sides, G. R.</i>	299
An investigation into the flow behaviour through compacted saturated fine-grained soils with regard to fines content and over a range of applied hydraulic gradients..... <i>Younger, J. S. and Lim, C. I.</i>	312
Non-Darcian flow of water in soils—laminar region.. <i>Kutilek, M.</i>	327
Hydrostatics and hydrodynamics in swelling media.... <i>Philip, J. R.</i>	341
Model tests to study groundwater flows using radioisotopes and dye tracers..... <i>Klotz, D., Moser, H. and Rauert, W.</i>	351
6. Surface phenomena in flow through porous media	
Étude des phénomènes interfacieux dans différents modèles ana- logiques de milieux poreux..... <i>Thirriot, C. et Aribert, J. M.</i>	371
Sorption in flow through porous media..... <i>Hendricks, D. W.</i>	384