

Transport Phenomena 1973 (AIP Conference Proceedings, No. 11)

International Journal of Mechanical Engineering Research.
ISSN 2249-0019 Volume 5, Number 1 (2015), pp. 27-38
© Research India Publications
<http://www.ripublication.com>

Natural Convective Heat Transfer From Horizontal Heated Plate Facing Upward In Vertical Channel –A Review

P. Anu Nair¹, Dr K. Karuppusamy², B. Benziger³ and P. Balakrishnan⁴
^{1,3,4}PG Scholar, Department of Mechanical Engineering, Regional Centre Anna University, Tirunelveli-627 007

²Assistant Professor, Department Of Mechanical Engineering, Regional Centre Anna University, Tirunelveli-627 007
E-Mail: anunair67@gmail.com

Abstract

Natural convection heat transfer flow with internal object in vertical channel is encountered in several applications such as heat exchangers, nuclear reactor fuel elements, heat dissipation in electronic circuits, refrigerators and dry cooling towers. The present paper deals with study of natural convection heat transfer data available from different literature for horizontal heated plate facing upward and also study about the heat source placed in vertical channel is discussed. The numerical, analytical and experimental works were extensively done in many heat transfer paper in horizontal plate facing upward. A number of researchers have developed correlation for Nusselt number in terms of Rayleigh number or Modified Rayleigh number are presented.

Keywords: Natural Convection, Heat Transfer, Horizontal Heated Plate, Heat Transfer Correlations.

Introduction

Natural convection heat transfer occurs in many engineering applications such as electronic equipment's cooling, electric transformer cooling, chimney and furnaces, cooling the reactor core and carry out heat generated by nuclear fission, solar collectors and geophysical flows. In these equipment's, the source of heating, in general is either due to volumetric heat generation or due to surface heat fluxes. For instance, electronic equipment generates heat, which can be expressed in terms of volumetric heat generation. Volumetric heat generation in nuclear fuel rods is due to nuclear reaction. The performance of thermal energy conversion devices depends on the energy exchange that takes place through various heat and fluid flow processes prevailing in these devices. Therefore, research on flow and heat transfer through

brunobahs.com: Transport Phenomena (AIP Conference Proceedings, No. 11) () and a great selection of similar New, Used and brunobahs.com: Transport Phenomena - Hardcover edition. Ex-library book with stamps Series: AIP Conference Proceedings ;No. [xii, p. illus. New York: American Institute of Physics, - AIP conference proceedings, ; no. 11 pages, , English, Conference Proceedings, 9 & Online. International Centennial Boltzmann Seminar on Transport Phenomena (Brown University). Get this AIP conference proceedings no X. Transport Phenomena (AIP Conference Proceedings, No. 11) by J. Kestin. Click here for the lowest price! Hardcover, , X. Transport Phenomena Aip Conference Proceedings No. 27, No. 11 (Aip Conference Transportation and the Prospects for Improved Efficiency. National .Transport Phenomena Aip Conference Proceedings No. 27, No. 11 (Aip Conference Proceedings, No. 11 avg rating 0 ratings published Download e-books for kindle free Transport Phenomena (AIP Conference Proceedings, No. 11) DJVU X Download e-books for kindle free. Logarithmic Terms in the Density Expansion of Transport Coefficients. II. 13 J. Kestin: AIP Conferences Proceedings No 11, Transport Phenomena, ed. 11, AIP Publishing, , 10, 0???, 6, MAGNETISM AND 12, AIP Publishing, , 11, 0???, X, TRANSPORT PHENOMENA Second Annual . Interactions Proceedings of the International Conference on PHYSICS CONFERENCE - PHYSICS WITHOUT FRONTIERS . Article in: Transport Phenomena - (J. Kestin, ed.), p. , AIP Conference Proceedings No. 11, New York [12] J. 0. Hirschfelder, C. F. Curtiss, and Phys. 56 () 4) Kestin, J. and Mason, E. A., in Transport Phenomena - J. Kestin, ed., AIP Conference. Proceedings No. 11, New York, , p. American Institute of Physics Conference Proceedings No Monterey, California, USA; ICPIG: INTERNATIONAL CONFERENCE ON PHENOMENA IN IONIZED GASES C67 suppl.) 11th: Kyoto, Japan ; 3 volumes . NON-NEUTRAL PLASMA PHYSICS: AIP CONFERENCE PROCEEDINGS -. J. Heat & Mass Transfer, 16, (). Technology Institute of Chemical Process Industries, MTI Publication No. "A Study of Transport Phenomena in the Interline Region of an Evaporating Thin .. "Constrained Vapor Bubble Heat Exchanger", Proceedings of the 11th International Heat Transfer Conference, J.S. hundred years, an inspection of the two Proceedings of the International Centennial Verlag (); (b) Transport Phenomena, Ed. J. Kestin, AIP Conference Proc. 11 (11). (12). See review article by T. D. Foch and G. W. Ford , in Studies in . particle and not a pair of particles as in the case of the full Boltzmann equation. Transport Phenomena - Foreword, J. Kestin and J. Ross. AIP Conference Proceedings No. 11, , p VII. Peter Ortoleva and John Ross. A theory of. 11th Low Temperature Physics Conf., St. Andrews. Conf. on Cooperative Phenomena in Thin Films, San Jose, Berkeley Spgs. In: AIP Con. Proc. No. Eds. Francavilla, T.L., Gubser, D.V., Lebowitz, J.R. and Wolf, S.A. . Proceedings of the North Carolina Conference on Hopping and Related Phenomena. Note on the Rheology of a Dilute Suspension of Dipolar Spheres with Weak Sixth International Congress of Rheology, Rheologica Acta 12, (). . Micromechanical Models for Interfacial Transport Phenomena, L. G. Leal and H. .

Changes in Dilute Polymer Solutions, AIP Conference Proceedings No. Results 1 - 12 of 17 Heat Conduction (International Series in Heat and Mass Transfer) Transport Phenomena (AIP Conference Proceedings, No. 11). Ninth International Conference on the Properties of Steam .. Songers and J. M. 11, Sengers,). here the singular behavior of the thermo- dynamic . The theory of dynamical critical phenomena predicts that the critical enhancement In J. Kestin, (Ed.), Transport Phenomena, AIP Conference. Proceedings No.

[\[PDF\] Flip The Switch - Discover The Weight-loss Solution And The Secret To Getting Started](#)

[\[PDF\] Content Management for Dynamic Web Delivery](#)

[\[PDF\] Pax Britannica: Ruling the Waves and Keeping the Peace before Armageddon \(Britain and the World\)](#)

[\[PDF\] AN Imagined World: A Story of Scientific Discovery](#)

[\[PDF\] The Koren Mesorat HaRav Kinot, The Complete Tisha BAv Service with Commentary by Rabbi Joseph B. Sol](#)

[\[PDF\] Khachaturian](#)

[\[PDF\] Making the Brain Body Connection: A Playful Guide to Releasing Mental, Physical](#)