

1. Record Nr.	UNINA9910163142903321
Autore	Dixon John M
Titolo	Mixed Convection in Fluid Superposed Porous Layers // by John M. Dixon, Francis A. Kulacki
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2017
ISBN	3-319-50787-7
Edizione	[1st ed. 2017.]
Descrizione fisica	1 online resource (X, 72 p. 40 illus.)
Collana	SpringerBriefs in Thermal Engineering and Applied Science, , 2193-2530
Disciplina	621.4022
Soggetti	Thermodynamics Heat engineering Heat transfer Mass transfer Fluid mechanics Engineering—Materials Materials science Engineering Thermodynamics, Heat and Mass Transfer Engineering Fluid Dynamics Materials Engineering Characterization and Evaluation of Materials
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Introduction -- Mathematical Formulation and Numerical Methods -- Numerical Results -- Measurement of Heat Transfer Coefficients -- Summary of Findings -- References -- Appendices.
Sommario/riassunto	This Brief describes and analyzes flow and heat transport over a liquid-saturated porous bed. The porous bed is saturated by a liquid layer and heating takes place from a section of the bottom. The effect on flow patterns of heating from the bottom is shown by calculation, and when the heating is sufficiently strong, the flow is affected through the porous and upper liquid layers. Measurements of the heat transfer rate from the heated section confirm calculations. General heat transfer laws are developed for varying porous bed depths for applications to

process industry needs, environmental sciences, and materials processing. Addressing a topic of considerable interest to the research community, the brief features an up-to-date literature review of mixed convection energy transport in fluid superposed porous layers.

---