SpringerBriefs in Applied Sciences and Technology

## **Turbulent Impinging Jets into Porous Materials**

Bearbeitet von Marcelo J.S. de Lemos

1. Auflage 2012. Taschenbuch. xvi, 76 S. Paperback ISBN 978 3 642 28275 1 Format (B x L): 15,5 x 23,5 cm Gewicht: 153 g

<u>Weitere Fachgebiete > Technik > Werkstoffkunde, Mechanische Technologie ></u> <u>Technische Thermodynamik</u>

schnell und portofrei erhältlich bei



Die Online-Fachbuchhandlung beck-shop.de ist spezialisiert auf Fachbücher, insbesondere Recht, Steuern und Wirtschaft. Im Sortiment finden Sie alle Medien (Bücher, Zeitschriften, CDs, eBooks, etc.) aller Verlage. Ergänzt wird das Programm durch Services wie Neuerscheinungsdienst oder Zusammenstellungen von Büchern zu Sonderpreisen. Der Shop führt mehr als 8 Millionen Produkte.

## Preface

For more than two decades now, at the Instituto Tecnológico de Aeronáutica (ITA), Brazil, I have taught courses on thermal sciences. In the middle of the 1990s, we got interested in the subject of modeling flows through permeable structures. Besides the most promising realm of applications for such studies, namely Oil and Gas industries, other promising areas such as Energy, Aeronautics, Aerospace and Defense, became also target for new applied technology to be developed based on the fundamentals detailed in several journal articles and books published on this subject by our group.

Among many applications that we foresaw in years back, was the possibility of enhancing or damping heat transfer rates from surfaces subjected to heating or cooling by an impinging jet. Then, a series of systematic studies were carried out describing the advantages, or otherwise, of having a solid porous matrix attached to a surface that is hit by a fluid. This book intends to present such studies in a self contained and organized way.

I am much thankful to and would like to express my appreciation to Professor Dr.-Ing. Andreas Öchsner, Editor-in-Chief of the Springer book series on "Advanced Structured Materials", among other editorships, and Dr. Christoph Baumann, Springer Senior Engineering Editor, for their encouragement in putting forward this project.

The continuous support from our research funding agencies in Brazil, namely, CAPES, CNPq and FAPESP, are greatly appreciated. Among all my former students who have contributed to our overall research goals in the last fifteen years, special thanks are due to master graduates D.R. Graminho, C. Fischer and F.T. Dórea for their efforts on the research topic here discussed. Finally, I am thankful to Mrs. Stefani Montemagni for her careful and skillful typing of the manuscript.

São José dos Campos, December 2011

Marcelo J.S. de Lemos