

Preface

The subtle and intricate phenomenon of thermodiffusion is evident in several facets of life and nature. However, it is still not understood very well and there is a lack of a single source that deals exclusively with this phenomenon. Consequently, a newcomer in the field of thermodiffusion has to fend for himself through the research articles that are scattered all over the engineering and pure science journals. In an effort to address this shortfall, this text is an attempt to offer a comprehensive starting point by presenting the current theoretical/computational approaches to study thermodiffusion.

In writing this book it has been assumed that there is little or no prior understanding of the principles of thermodiffusion. In laying down the foundations of thermodiffusion, the book discusses the current theoretical frameworks to study this fascinating phenomenon. Additionally, studies employing these theories are presented for the reader to understand the drawbacks/advantages of the various expressions that quantify thermodiffusion. A separate list of references is also included at the end of each chapter for further reading.

Apart from serving as a reference text for the professionals in the fields of chemistry, mechanical engineering, reservoir engineering as well as materials science, this book is also an excellent guide for the postdoctoral researchers and graduate students in this field.

In preparing this work, we are indebted to our fellow researchers in the scientific community whose studies have helped us shape our understanding of the subject. Special thanks to the members of our research group, graduate students in particular, for their contributions to this fascinating field.

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Thermodynamic, Algebraic, and Neuro-Computing
Models

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