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Transport Phenomena

Synopsis

Treats momentum transport (viscous flow), energy transport (heat conduction, convection, and radiation), and mass transport (diffusion). All topics are organized around the ``equations of change'': the equations of motion, energy, and continuity.

Book Information

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Customer Reviews

If you're in the small niche of people that needs this book or are highly interested in it, it's a jewel to have. It was recommended by a professor of mine, and I was really glad I picked it up. Plus, if your friends happen to open it up it looks SUPER impressive ;)

As described!

Good quality book. An asset in studies for my Transport course. Highly recommend this book to other students in the Chemical Engineering field.

I spent one semester with this text in ChE grad school. There is something I think quite sublime about this book. Although I only barely approached the abilities represented in this text by these doctors, I am still in awe of the modeling mastery which it represents. Due to this text I was able to take a step toward true modeling mastery, unfortuantely, or maybe not, my career has not provided any continuing opportunites to develop the deep modeling insights which this book will teach you.

Really amazing stuff to have such an esteemed text actually remove the shackles of engineering math. If you put in the work to understand even 20% of this book then you will likely re-learn what you knew in high school: the answer is more valuable than showing all the bs partial credit 'steps'.....

This's THE textbook in the subject and no other book has come even close to taking its place. However, this book was written in late 50's and even though the material is still very much relevant, the presentation is definitely not very good. There're a lot of concepts which need precise and lucid explanations. To give an example, the discussion on curvilinear coordinates fails to explain properly the origin of the so-called "unusual" terms in N-S eqns. Also, the idea of jump conditions has not been given good treatment. It'd be great to use the so-called "integral" approach rather than the "differential" approach to derive the relevant eqns, at least for its elegance.However, the subject is so vast that each reader often develops his/her own way of understanding and appreciating it. It's a daunting task to write a book on this subject that would cater to most of, if not all the readers. That way this book, representing one of the earliest and extremely valuable attempts, will remain a classic.The problems at the end of chapters deserve special mention. They're an excellent collection and any student who sincerely works all of them will have a thorough understanding of the basics and can appreciate the subject's nuances and beauties very well.

This book progresses quite rapidly through the various topics; usually begining with a one dimentional analysis and then proceding to more general treatment. This more general treatment tends to consist of Tensor analysis which is explained to a working extent in an appendix. However, after these general equations have been derived they are only refefered to by there location out of a comprehensive chart. Furthermore, the student is trained to use intuition in their approach to problem solving.In general the text is incredibly consistant and well written. The examples and problems grow from a relitively basic level to those that can only be solved with advanced engineering Mathematics. The progression builds on itself in a nice way.

This is one of the few MUST HAVE books for Chemical Engineers doing process engineering. When I travel (for work) I always take "Transport Phenomena" (aka BSL), The GPA Databook and "Rules of Thumb for Chemical Engineers". When all the simple solutions to a problem have been exhausted, I pull out BSL, find an end-chapter problem similar to my own and work from there.A Practical Tip: The best thing to do with "Rules of Thumb for Chemical Engineers" is to carefuly remove the binding and put it into a 3-hole notebook (e.g., the GPA databook) and then file all the

classic process design articles with the appropriate chapters.

Transport Phenomena colloquially known as BSL is the book to learn transport phenomena from if at the ugrad level. Although the binding might show the age of the book, the text is just as applicable today. And this is the copy to have, it's better than the 2nd edition copy due to the lack of changes that could confuse people going the first time through it.It will never go out of style, and you'll even look smarter with it sitting on your shelf.

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