



Principles of Turbomachinery

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DESCRIPTION

The text is based on a course on turbomachinery which the author has taught since year 2000 as a technical elective. Topics include; Energy Transfer in Turbomachines, Gas and Steam Turbines, and Hydraulic Turbines. New material on wind turbines, and three-dimensional effects in axial turbomachines is included. The level is kept as such that students can smoothly move from a study of the most successful books in thermodynamics, fluid dynamics, and heat transfer to the subject of turbomachinery. The chapters are organized in such a way that the more difficult material is left to the later sections of each chapter. Thus, depending on the level of the students, instructors can tailor their course by omitting some sections.

Key features:

- Combines theory and applications to show how gas turbines, pumps and compressor function
- Allows for a smooth transition from the study of thermodynamics, fluid dynamics, and heat transfer to the subject of turbomachinery for students and professionals
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Relates turbomachinery to new areas such as wind power and three-dimensional effects in axial turbomachines

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Provides information on several types of turbomachinery rather than concentrating specifically on one type such as centrifugal compressors

ABOUT THE AUTHOR

Seppo A. Korpela has taught in the mechanical engineering department of The Ohio State University since 1972. Over the years he has been engaged in research in thermal sciences and engineering. This work has resulted in over fifty journal publications. He has also been engaged in research and writing on the world's energy resources.

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