Using EES to Improve Understanding of Thermodynamics Class

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Abstract

Thermodynamics involves properties such as pressure, temperature, and volume. It also involves and is related to heat transfer. This concept can be very complex and difficult to understand easily. The Engineering Equation Solver was developed in order for the student to understand the process of how heat transfer or energy takes place. There are no laboratory classes in existence to demonstrate the properties and how they interact with each other; therefore EES takes the place of the laboratory class. The Engineering Equation Solver is used to solve problems in nearly every topic of thermodynamics. With the help of EES, the student can develop a better understanding of what happens in a given situation. What with the complexities of a particular system, it is difficult to understand everything that is going on within that system. Since EES is computer software, it has an interface similar to widely used programs such as Microsoft Word.

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Chun-Ling Huang, a Professor of Mechanical Engineering, Southern University, holds his degree of Doctor of Philosophy in Mechanical Engineering with specialty in experimental and computational fluid dynamics and heat transfer from the University of Alabama. He developed and introduced the experimental fluid dynamics course program in the Department of Mechanical Engineering at SU in 2003. He has authored or co-authored eleven publications over the past three years. Dr. Huang has reviewed several new fluid mechanics and thermodynamics textbooks published by McGraw-Hill Higher Education Co. since 2000.