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Subject: new Book review
Title:" Modern electric, hybrid electric and fuel cell vehicles"
Authors: M. Ehsani, Y. Gao, S. E. Gay, A. Emadi
Publisher: CRC Press, Boca Raton, Florida, 2005, 395 pp.

Energy is the key ingredient of material prosperity. Transportation uses a big slice of it, and the automobile is a main energy consumer. Maintaining an acceptable level of clean air means today to reduce the energy consumption per passenger per km in cars. As most of the driving takes place in urban areas where there are many stops and the average speed is moderate the reduction of fuel consumption by electric or hybrid electric or fuel cells vehicle has become the trend of the industry.

A few hybrid electric vehicles are now in the mass markets and many are due to follow trend by the year.

This book is intended mainly to serve as a general new undergrad course for mechanical and electrical(chemical) engineering students to be taught in competitive Universities which are dedicated to foster high tech.

The authors have contributed notably to the field and thus offer a balanced picture of the multidisciplinary aspects of the subject from technological to environmental issues of automobile distributed over 13 chapters:
* environmental impact and history of modern transportation
* vehicle fundamentals
* internal combustion engines
* electric vehicles
* hybrid electric vehicles
* electric propulsion systems
* series hybrid electric drive train design
* parallel hybrid electric drive train design
* mild hybrid electric drive train design
* energy storages
* regenerative braking
* fuel cell vehicles
* fuel cell hybrid electric drive train

Each chapter is loaded with fundamental theoretical knowledge illustrated by figures with realistic results from literature, but the math is high but is kept under control and the concepts are exposed in full light. The chapters on environmental impact, internal combustion engines, energy storages and fuel cells vehicles illustrate the multi-facet aspects of the subject while those on various electric and hybrid electric drive train design are indicative of the depth in covering the core of the subject: new electric power usage on vehicle to reduce drastically energy consumption(up to 40% in urban driving).

Solved and proposed problems should perhaps be considered for each Chapter in a potential second edition.

This new rather complete undergrad broad spectrum engineering textbook on a new technology in full swing, with extraordinary impact on the society is very timely and I highly recommend it to all Universities interested in automotive technologies.

The R&D automotive, electrical or mechanical engineer may also profit from the book notably.

Sincerely,
Ion Boldea.