Fuel cell electric vehicles (FCEVs) powered by proton-exchange membrane fuel cells (PEFC) and fueled by hydrogen offer the promise of zero emissions with excellent driving range of 300-400 miles and fast refueling times of less than five minutes; two major advantages over battery electric vehicles (BEVs). FCEVs face several remaining major challenges in order to achieve widespread and rapid commercialization. Many of the challenges, especially those from an FCEV system and subsystem cost and performance perspective are addressed in this book. Chapter topics include:

- impact of FCEV commercialization
- new hydrogen infrastructure cost comparisons
- stack bipolar plate corrosion protective coatings
- onboard chemical hydride storage
- new hydrogen sensors
- simulation of onboard hydrogen storage strategies
- vehicle air supply systems
- FCEV energy management
- optimization of hybrid FCEV powertrains

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