

# 电气化与智能化技术——未来汽车的驱动力

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## 摘要

节能与减排是当今汽车工业发展的主旋律, 电动和混合动力汽车也由此得到了迅猛的发展。然而, 除了其本身面临的许多技术挑战外, 电动和混合动力汽车也承受着不小的由于较高的制造成本和较高的市场预期带来的压力。所幸的是, 绿色技术在节能与减排的同时, 也很可能将汽车的电气化带到一个新的发展阶段, 为汽车设计和制造、乃至汽车工业带来革命性的变化。电气化的汽车又是智能化汽车的前提, 而汽车的智能化是从根本上提高汽车安全性和整体性能的路径之一。该文分析了汽车电气化和智能化领域的现状和一些相关的关键技术, 特别是从系统的角度对相关的汽车电子电气(E/E)架构和集成控制系统作了探讨, 并认为电气化和智能化两者相辅相成, 将成为汽车工业未来技术的主要驱动力。

## Abstract

As automotive industry faces more and more stringent requirements in fuel economy and emissions reduction, electric and electric hybrid vehicles have gained great momentum in recent years. Besides many technical challenges ahead, however, there are market barriers with unaffordable cost and high expectation from consumers. While focus has been on green technology, the resulted vehicle electrification may push automotive industry to an inflection point that revolutionizes the way how vehicles are designed, engineered and built. Electrified vehicle enables intelligent vehicle, which is considered to be one of the ultimate solutions to vehicle safety and performance in general. This paper reviewed the state of the art and challenges in some key areas, in particular, electrical and electronic (E/E) architecture and integrated vehicle controls. The paper concluded that electrification and intelligence is a harmonious combination for vehicles, and the primary drive to the future automotive industry.

## 其他相关研究

[四轮独立驱动电动汽车车速估计研究](#), 《机械设计与制造》2013年09期

[车载自组网移动模型综述](#), 《计算机学报》2013年04期

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