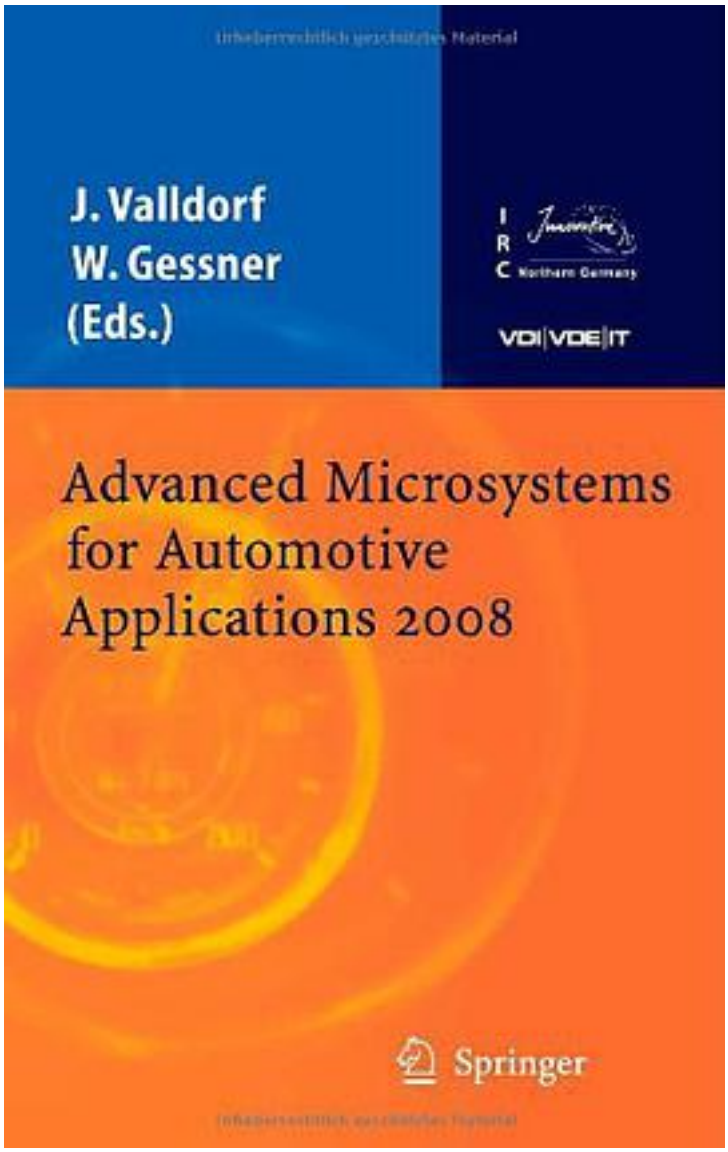
Advanced Microsystems for Automotive Applications 2008



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With the total number of vehicles steadily increasing and soon approaching one billion, the world is facing serious challenges in terms of both safety of road transport and sustainability. Consequently the two major persistent issues for the automotive industry are improved safety and reduced emissions. The integration of complex microsystems with enhanced intelligence, so-called smart systems has enabled an increase of efficiency of the previously a dumba (TM) internal combustion engine by on average 1% annually during the last 20 years. In the future, smart systems may help to leverage novel powertrain concepts towards the zero emissions vehicle. Particularly for electric vehicles, anticipatory power management and efficient driving assistance by smart systems will be needed to overcome the range limitations. Adaptive systems predicting the energy demand for a chosen route will help the driver to increase energy efficiency. Networked devices for car-to-car communication could help to avoid the waste of energy due to unnecessary braking and accelerating. Intelligent systems for tire monitoring and control deserve special attention since insufficient tire pressure accounts for more than 3% of the efficiency losses in the car. Future electrical in-wheel motors require new miniaturised functionalities enabled by advanced micro- and smart systems. The conference book in hand is a showroom of activities, the AMAA has been known for during the last 12 years: advanced sensors even including one based on the giant magneto resistance (GMR) effect a " a finding for which two European physicists were awarded the Nobel prize, recently a " several camera and radar systems making road traffic safer by assisting the driver in recognizing pedestrians and obstacles, and human-machine interfaces based on the recognition of hand gestures - a striking example of how smart systems will further enhance the usability of vehicles and the comfort of driving. Additional information is available on www.amaa.de

作者介绍:

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