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New Frontiers of the Automobile Industry
7th Conference, Berlin, May 12-13, 2016
Handbook of Fuels
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Automotive Transmissions
Future Powertrain Technologies
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Basics, Components, Systems, and Perspectives
CONAT 2016 International Congress of Automotive and Transport Engineering
10th Schaeffler Symposium April 3/4, 2014
6th International Munich Chassis Symposium 2015
Vehicle Propulsion Systems
Cost, Effectiveness, and Deployment of Fuel Economy Technologies for Light-Duty Vehicles
Electric Vehicle Systems Architecture and Standardization Needs
Exploring Geographies, Technology, and Institutional Challenges
Driving and Engine Cycles
The International Vehicle Aerodynamics Conference
Abigail Reynolds' Art Journey
Internal Combustion Engine Handbook
TRANSBALTICA XII

Curves

WILSON SIENA

chassis.tech plus Springer Nature
Among the various factors greatly influencing the development process of future powertrain technologies, the trends in climate change and digitalization are of huge public interest. To handle these trends, new disruptive technologies are integrated into the development process. They open up space for diverse research which is distributed over the entire vehicle design process. This book contains recent research articles which incorporate results for selecting and designing powertrain topology in consideration of the vehicle operating strategy as well as results for handling the reliability of new powertrain components. The field of investigation spans from the identification of ecologically optimal transformation of the existent vehicle fleet to the development of machine learning-based operating strategies and the comparison of complex hybrid electric vehicle topologies to reduce CO2 emissions. *Selective Catalytic Reduction of NOx* BoD – Books on Demand
Analysing developments in digital technologies and institutional changes, this book provides an overview of the current frenetic state of transformation within the global automobile industry. An ongoing transition brought about by the relocation of marketing, design and production centres to emerging economies, and experimentation with new mobility systems such as electrical, autonomous vehicles, this process poses the question as to how original equipment manufacturers (OEMs) and newcomers can remain competitive and ensure sustainability. With contributions from specialists in the automobile sector, this collection examines the shifts in power and geographical location occurring in the industry, and outlines the key role that public policy has in generating innovation in entrepreneurial states. Offering useful insights into the challenges facing emerging economies in their attempts to grow within the automobile industry, this book will provide valuable reading for those researching internationalization and emerging markets, business strategy and more specifically, the automotive industry.
Concepts - Materials - Design Springer
This edited volume presents research results of the PPP European Green Vehicle Initiative (EGVI), focusing on Electric Vehicle Systems Architecture and Standardization Needs. The objectives of energy efficiency and zero emissions in road transportation imply a paradigm shift in the concept of the automobile regarding design, materials, and propulsion technology. A redesign of the electric and electronic architecture provides in many aspects additional potential for reaching these goals. At the same time, standardization within a broad range of features, components and systems is a key enabling factor for a successful market entry of the electric vehicle (EV). It would lower production cost, increase interoperability and compatibilities, and

sustain market penetration. Hence, novel architectures and testing concepts and standardization approaches for the EV have been the topic of an expert workshop of the European Green Vehicles Initiative PPP. This book contains the contributions of current European research projects on EV architecture and an expert view on the status of EV standardization. The target audience primarily comprises researchers and experts in the field.

Fuel Systems for IC Engines Springer

This established textbook offers a one-stop, comprehensive coverage of air pollution, all in an easy-reading and accessible style. The fourth edition, broadly updated and developed throughout, includes a brand-new chapter providing a broader overview to the topic for general reading, and presents fresh materials on air pollution modelling, mitigation and control, tailored to the needs of both amateur and specialist users. Retaining a quantitative perspective, the covered topics include: gaseous and particulate air pollutants, measurement techniques, meteorology and modelling, area sources, mobile sources, indoor air, effects on plants, materials, humans and animals, impact on climate change and ozone profiles and air quality legislations. This edition also includes a final chapter covering a suite of sampling and laboratory practical experiments that can be used for either classroom teachings, or as part of research projects. As with previous editions, the book is aimed to serve as a useful reading resource for upper-level undergraduate and postgraduate courses specialising in air pollution, with dedicated case studies at the end of each chapter, as well as a list of revision questions provided at the end as a complementary section.

National Academies Press

Connectivity has arrived in the vehicle - whether it is in-car internet or car-to-car communication. For the chassis too, the connected car is increasingly becoming a driver of innovation. Predictive and intelligent chassis systems and automated driving are just some of the topics being addressed. In addition to enhancing driving comfort and safety, interconnecting the powertrain with the chassis can also provide new functions, not only in cars but also in commercial vehicles. What is more, modularization, electrification of the powertrain, intelligent development methods and efforts to reduce fuel consumption are also driving innovations in chassis systems.

Modeling and Simulation in Scilab/Scicos with ScicosLab 4.4 MDPI

The authors of this text have written a comprehensive introduction to the modeling and optimization problems encountered when designing new propulsion systems for passenger cars. It is intended for persons interested in the analysis and optimization of vehicle propulsion systems. Its focus is on the control-oriented mathematical description of the physical processes and on the model-based optimization of the system structure and of the supervisory control algorithms.

Green Technologies to Improve the Environment on Earth MDPI

The present report summarises the work carried out by the

European Commission's Joint Research Centre to estimate the impact of the introduction of the new type approval procedure, the Worldwide Light duty vehicle Test Procedure (WLTP), on the European car fleet CO2 emissions. To this aim, a new method for the calculation of the European light duty vehicle fleet CO2 emissions, combining simulation at individual vehicle level with fleet composition data is adopted. The method builds on the work carried out in the development of CO2MPAS, the tool developed by the Joint Research Centre to allow the implementation of European Regulations 1152 and 1153/2017 (which set the conditions to amend the European CO2 targets for passenger cars and light commercial vehicles due to the introduction of the WLTP in the European vehicle type-approval process). Results show an average WLTP to NEDC CO2 emissions ratio in the range 1.1-1.4 depending on the powertrain and on the NEDC CO2 emissions. In particular the ratio tends to be higher for vehicles with lower NEDC CO2 emissions in all powertrains, the only exception being with the plug-in hybrid electric vehicles (PHEVs). In this case, indeed, the WLTP to NEDC CO2 emissions ratio quickly decreases to values that can be also lower than 1 as the electric range of the vehicle increases.

Vehicle and Automotive Engineering 3 Springer Nature

'The tubs' is a series of personal stories about the 356 Speedster and successors in New Zealand.

Simulation and Testing for Vehicle Technology Woodhead Publishing

The aim of this book is to compile some of the green technologies applied to improve the environment on Earth. The success of these technologies is built from humility; from this ethical principle, the concept of honest broker is defined in this work. Some of the biggest environmental problems, such as soil pollution by heavy metals and pollution from the mining industry and massive coal plants, are also addressed. Additional subjects depicted here include geothermal energy, plasma technology, and the correct use of electric vehicles, and demonstrate a promising scenario to diminish greenhouse gases. Likewise, caring for wildlife is essential; the correct use of certain technologies depicted here can contribute to their conservation.

July 2–3, 2015, Berlin, Germany Springer

In the current scenario in which climate change dominates our lives and in which we all need to combat and drastically reduce the emission of greenhouse gases, renewable energies play key roles as present and future energy sources. Renewable energies vary across a wide range, and therefore, there are related studies for each type of energy. This Special Issue is composed of studies integrating the latest research innovations and knowledge focused on all types of renewable energy: onshore and offshore wind, photovoltaic, solar, biomass, geothermal, waves, tides, hydro, etc. Authors were invited submit review and research papers focused on energy resource estimation, all types of TRL converters, civil infrastructure, electrical connection, environmental studies, licensing and development of facilities, construction, operation

and maintenance, mechanical and structural analysis, new materials for these facilities, etc. Analyses of a combination of several renewable energies as well as storage systems to progress the development of these sustainable energies were welcomed.

The Porsche Lifestyle Channel Instagram Springer Science & Business Media

The volume will include selected and reviewed papers from CONAT - International Congress of Automotive and Transport Engineering to be held in Brasov, Romania, in October 2016. Authors are experts from research, industry and universities coming from 14 countries worldwide. The papers are covering the latest developments in automotive vehicles and environment, advanced transport systems and road traffic, heavy and special vehicles, new materials, manufacturing technologies and logistics, accident research and analysis and innovative solutions for automotive vehicles. The conference will be organized by SIAR (Society of Automotive Engineers from Romania) in cooperation with FISITA.

From NEDC to WLTP MDPI

This edited open access book gives a comprehensive overview of small and lightweight electric three- and four-wheel vehicles with an international scope. The present status of small electric vehicle (SEV) technologies, the market situation and main hindering factors for market success as well as options to attain a higher market share including new mobility concepts are highlighted. An increased usage of SEVs can have different impacts which are highlighted in the book in regard to sustainable transport, congestion, electric grid and transport-related potentials. To underline the effects these vehicles can have in urban areas or rural areas, several case studies are presented covering outcomes of pilot projects and studies in Europe. A study of the operation and usage in the Global South extends the scope to a global scale. Furthermore, several concept studies and vehicle concepts on the market give a more detailed overview and show the deployment in different applications.

Absorptionsspektroskopie zur zeitaufgelösten Abgasmessung an Verbrennungsmotoren National Academies Press

The overall energy sector calls for a transformation from a fossil-based system to a low-carbon one. At a technology level, significant efforts have been made to provide energy solutions that contribute to a sustainable energy system. However, the actual suitability of these solutions is often not checked. In this sense, the assessment of energy systems from a life-cycle perspective is of paramount importance when it comes to effectively planning the energy sector. While environmental issues are commonly addressed through the use of the Life Cycle Assessment (LCA) methodology, the comprehensive evaluation of the economic and social aspects of energy systems often remains ignored or underdeveloped. This book consists of a set of scientific works addressing the analysis of energy systems from a (life-cycle) technical, economic, environmental and/or social standpoint. Case studies at and beyond the technology level are included, some of them involving a combination of life cycle and non-life cycle approaches for the

thorough evaluation of energy systems under the umbrella of sustainability.
The Tubs From NEDC to WLTPEffect on the Type-approval CO2 Emissions of Light-duty VehiclesThe present report summarises the work carried out by the European Commission's Joint Research Centre to estimate the impact of the introduction of the new type approval procedure, the Worldwide Light duty vehicle Test Procedure (WLTP), on the European car fleet CO2 emissions. To this aim, a new method for the calculation of the European light duty vehicle fleet CO2 emissions, combining simulation at individual vehicle level with fleet composition data is adopted. The method builds on the work carried out in the development of CO2MPAS, the tool developed by the Joint Research Centre to allow the implementation of European Regulations 1152 and 1153/2017 (which set the conditions to amend the European CO2 targets for passenger cars and light commercial vehicles due to the introduction of the WLTP in the European vehicle type-approval process). Results show an average WLTP to NEDC CO2 emissions ratio in the range 1.1-1.4 depending on the powertrain and on the NEDC CO2 emissions. In particular the ratio tends to be higher for vehicles with lower NEDC CO2 emissions in all powertrains, the only exception being with the plug-in hybrid electric vehicles (PHEVs). In this case, indeed, the WLTP to NEDC CO2 emissions ratio quickly decreases to values that can be also lower than 1 as the electric range of the vehicle increases.Renewable Energies for Sustainable Development
What type of sustainable concepts will meet future mobility requirements? Digitization is leading to the growth of the "sharing society". Especially in megacities, automation and the challenges to last mile logistics are likely to increase significantly. The question is: How can we use active development methods to design clean, efficient and intelligent mobility solutions? The international congress "Vehicles of Tomorrow" is an information and communication platform that showcases all aspects of the mobility transformation.
Lost Libraries Springer Nature
This book presents the papers from the latest conference in this successful series on fuel injection systems for internal combustion engines. It is vital for the automotive industry to continue to meet the demands of the modern environmental agenda. In order to excel, manufacturers must research and develop fuel systems that guarantee the best engine performance, ensuring minimal emissions and maximum profit. The papers from this unique conference focus on the latest technology for state-of-the-art system design, characterisation, measurement, and modelling, addressing all technological aspects of diesel and gasoline fuel injection systems. Topics range from fundamental fuel spray theory, component design, to effects on engine performance, fuel economy and emissions. Presents the papers from the IMechE conference on fuel injection systems for internal combustion engines Papers focus on the latest technology for state-of-the-art system design, characterisation, measurement and modelling; addressing all technological aspects of

diesel and gasoline fuel injection systems Topics range from fundamental fuel spray theory and component design to effects on engine performance, fuel economy and emissions
Small Electric Vehicles Springer
Die vom Gesetzgeber vorgeschriebenen Prüfzyklen zur Bestimmung der Emissionen von Kraftfahrzeugen mit Verbrennungsmotor werden zunehmend dynamischer und berücksichtigen mittlerweile auch den praktischen Fahrbetrieb (Real Driving Emissions). Folglich ergeben sich gesteigerte Anforderungen an die entsprechende Abgasmesstechnik. In dieser Arbeit wird ein neuartiges in-situ-Sensorsystem zur Messung gasförmiger Abgaskomponenten beschrieben, basierend auf Absorptionsspektroskopie mittels durchstimmbarer Diodenlaser (TDLAS). Die Methode ist hoch-selektiv und erfasst ausgewählte Linien im Infrarotspektrum der betrachteten Molekülspezies. Das entwickelte Sensorsystem wurde ausgelegt auf die Messung von Wasserdampf (H2O), Kohlenstoffdioxid (CO2), Kohlenstoffmonoxid (CO), Stickstoffmonoxid (NO) und Stickstoffdioxid (NO2), deren spektrale Übergänge bei Wellenlängen zwischen 1,4 und 5,2 µm angeregt werden. Zusätzlich zur jeweiligen Konzentration wird über das H2O-Spektrum auch die Gastemperatur gemessen. Das System ist vollständig fasergekoppelt und kann über eine Klemmflanschverbindung im Abgastrakt installiert werden. Das in-situ-Messprinzip, kombiniert mit der schnellen Durchstimmbarkeit der Diodenlaser, erlaubt die zeitliche Auflösung einzelner Motorzyklen, was anhand von Messungen an einem Einzylinder-Forschungsmotor demonstriert werden konnte. An einem Mehrzylinder-Serienmotor wurde der entwickelte Sensor mit einer konventionellen Abgasmessanlage verglichen, wobei unter instationären Betriebsbedingungen deutliche Abweichungen festgestellt wurden. Perspektivisch kann der Sensor demnach sowohl bei dynamischen Emissionsmessungen als auch zur Untersuchung von Zyklus-zu-Zyklus-Schwankungen eingesetzt werden.
Internal Combustion Engines Springer Nature
As the combustion engine looks set to remain the dominant energy conversion unit in vehicle powertrains in the medium term, either in combination with electrical components or on its own, attention will need to be paid to continue improving its efficiency in the future. The high development depth of today's combustion engines means that it is becoming increasingly difficult to achieve significant efficiency improvements by simple means. On the search for these improvements, the focus has shifted to inner-engine processes, for instance charge cycles including the charging system, the mixture formation including injection, combustion and kinematic conversion of the energy within the fuel. Our 2nd conference 'Engine processes' aims to offer all developers a platform to discuss the latest technological developments in the field of inner-engine process control, and encourage new paths to be taken.

We believe that the program for this conference is a sound foundation for this endeavour. Da der Verbrennungsmotor auch mittelfristig die dominierende Energiewandlungseinheit im Antriebsstrang von Kraftfahrzeugen sein wird, entweder im Verbund mit elektrischen Komponenten oder aber als alleiniger Antrieb, muss der Verbesserung von dessen Wirkungsgrad auch in Zukunft erhebliche Aufmerksamkeit zu Teil werden. Aufgrund der hohen Entwicklungstiefe, die heutige Verbrennungsmotoren aufweisen, wird es immer schwerer, deutliche Wirkungsgradverbesserungen auf einfachem Weg zu erreichen. Auf der Suche nach diesen Verbesserungen rücken die innermotorischen Prozesse immer mehr in den Fokus, hierzu zählen der Ladungswechsel inkl. Aufladesystem, die Gemischbildung inkl. Einspritzung, die Verbrennung sowie die kinematische Wandlung der im Kraftstoff gebundenen Energie. Unsere 2. Tagung „Motorische Prozesse“ soll nun allen Entwicklern als Austauschforum zu neuesten technologischen Entwicklungen auf dem Gebiet der innermotorischen Prozessführung dienen und dazu anregen neue Wege zu beschreiten. Wir sind überzeugt, mit dem vorliegenden Tagungs-Programm hierzu einen sehr guten Beitrag leisten zu können.

Cutting-Edge Technologies for Renewable Energy Production and Storage Springer Science & Business Media

From NEDC to WLTPEffect on the Type-approval CO2 Emissions of Light-duty Vehicles *Northern Italy* Echo Publishing

The book includes contributions on the latest model-based methods for the development of personal and commercial vehicle control devices. The main topics treated are: application of simulation and model design to development of driver assistance systems; physical and database model design for engines, motors, powertrain, undercarriage and the whole vehicle; new simulation tools, methods and optimization processes; applications of simulation in function and software development; function and software testing using HiL, MiL and SiL simulation; application of simulation and optimization in application of control devices; automation approaches at all stages of the development process.

New Frontiers of the Automobile Industry John Wiley & Sons

This book presents in detail the most important driving and engine cycles used for the certification and testing of new vehicles and engines around the world. It covers chassis and engine-dynamometer cycles for passenger cars, light-duty vans, heavy-duty engines, non-road engines and motorcycles, offering detailed historical information and critical review. The book also provides detailed examples from SI and diesel engines and vehicles operating during various cycles, with a focus on how the engine behaves during transients and how this is reflected in emitted pollutants, CO2 and after-treatment systems operation. It describes the measurement methods for the testing of new vehicles and essential information on the procedure for creating a driving cycle. Lastly, it presents detailed

technical specifications on the most important chassis-dynamometer cycles around the world, together with a direct comparison of those cycles.