

Contents

Investigation of a Mechanism Through a Transient Thermal Analysis and an Equivalent Steady-State Thermal Analysis.	1
Alexandra-Raluca Moisescu, Stefan Sorohan and Gabriel Anghelache	
Inter-cylinder Distribution of Di-Ethyl-Ether Injected into the Intake Manifold of a Diesel Engine Using CFD Simulation	9
Victor Iorga-Siman, Adrian Clenci, Rodica Niculescu and Alina Trică (Tuță)	
Analysis of Complex Planetary Mechanisms Used in Nine Speed Automatic Transmissions of Cars	21
Neacsu Eugen, Banca Gheorghe and Oloeriu Florin	
DUSTER ZERO—Electric Vehicle Research 4WD	37
Danut Gabriel Marinescu, Viorel Nicolae, Cristian Liviu Popescu, Liviu Calin and Nicusor Mierloiu	
The Thermal Characterisation of a Disc Brake Rotor at Reduced Scale with Particular Reference to Pad Aspect Ratio	51
Varun S. Prabhu, Abdulwahab A. Alnaqi and Peter C. Brooks	
Experimental Identification of the Automotive Magnetorheological Shock Absorbers.	61
Nicolae Vasiliu, Anton Hadăr, Alexandru Dobre, Constantin Călinoiu and Cristian Andreescu	
Application of Fuzzy Topsis and Ahp Method in Evaluating Vehicle Roadworthiness Performance.	69
Jakimovska Kristina, Duboka Čedomir and Karastoyanov Dimitar	
Concept Design of Twin-Sheet Thermoplastic Cellular Structures for Vehicle's Bumper System	81
Stefan Tabacu, Claudiu Diaconescu and Alexandru Oltean	

On the New Concept and Advantages of the Integrated Shock Absorber—Air Spring—“Isas”	93
Adrian Ioan Niculescu, Antony Jankowski, Mirosław Kowalski and Tudor Sireteanu	
Forces Involved in Small Overlap Crash	105
Xavier Da Silva and Núria Parera	
State of the Sm-Art Components Used on Autonomous Platforms for Sustainable Mobility	117
Valerian Croitorescu and Yassine Ruichek	
Passenger Cars Exhaust Emissions Under Real Driving Conditions	127
Jerzy Merkisz and Jacek Pielecha	
Studies Regarding the Influence of Exhaust Backpressure on the Performances of a Compression Ignited Engine	141
Nicolae Burnete, Dan Moldovanu, Doru-Laurean Baldean and Levente Kocsis	
A Study of Waste Heat Recovery Impact on a Passenger Car Fuel Consumption in New European Driving Cycle	151
Plamen Punov, Nikolay Milkov, Quentin Danel and Christelle Perilhon	
Modeling of Electric Vehicles for Driveability Control Applications	165
Ionut Alexandru Stoica, Marius Valentin Bataus and Ioan Mircea Oprean	
Making of Safer Network Operating System Components	175
Arun S Nair and Jaideep Save	
Statistical Decision in the Automotive Material Selection	189
Cristian Andreescu, Adrian Stere Paris, Cristian Dragomirescu and Constantin Târcolea	
Effects Analysis of Zone 30 Based on Recognition, Age and Accident Experience	197
Ryosuke Ando, Yasuhide Mimura, Keiichi Higuchi and Marehiro Mukai	
New Technology for Composite Materials Parts	209
Anghel Chiru and Lucian Eugen Rad	
Tyre Dynamics: Model Validation and Parameter Identification	219
Andreas Hackl, Wolfgang Hirschberg, Cornelia Lex and Georg Rill	
Smart Solutions for Vehicle Chassis	233
Mihai Florea, Valerian Croitorescu and Mircea Oprean	
Study for an Electrified UTV Platform	245
Grigore Danciu	

Measurement of Fuel Consumption for an Off-road Vehicle With Conventional and Hybrid Powertrain.	259
Gabriel Anghelache, Alexandra-Raluca Moisesescu and Ioan Mircea Oprean	
Security in Connected Cars	267
Mushabbar Hussain	
The Development of New Evaluation Criteria for Supercharged Engines Based on Elasticity and Adaptability at Traction	277
Ivan Florian, Mihai Stelian Niculae and Dragoș Constantin Neacșu	
The Comparative Study of Engine Vehicles Functioning With Petrol and Liquefied Petroleum Gas.	285
Ramona-Monica Stoica, Marian-Eduard Rădulescu, Irinel Dinu, George Ene, Daniel Neagu and Ion Copae	
Maintenance Costs Statistics for Urban Cars	297
Adrian Stere Paris, Cristian Andreescu, Cristian Dragomirescu and Constantin Târcolea	
Investigation of Third Body Phenomenon in Model Braking Using Infrared Camera.	307
Zbigniew Skorupka and Antoni Jankowski	
Modelling and Simulation of the Dynamic Behaviour Automotive's Suspension By AMESim	317
Alexandru Dobre, Anton Hadăr, Daniela Vasiliu, Nicolae Vasiliu and Cristian Andreescu	
Study Concerning the Loads Over Driver's Heads in Cases of Cars Crashes with Involved Cars of the Same or Different Generation	325
Nicolae Ispas and Mircea Nastasoiu	
Use of GPS/INS Devices for Experimental Study of Vehicle Dynamics	337
Dinu Covaciu, Ion Preda, Dragoș-Sorin Dima and Anghel Chiru	
Study of the Dynamic Behavior of a Car Body for Mounting the Rear Axle.	349
Ștefan-Ionescu Romeo, Petrache Gheorghe, Ionel Vieru, Viorel Nicolae and Pârlac Sebastian	
Simulation of the Air Conditioning Curtains with Turbulent Circular Jet Flows Inside the Cabin Vehicle Using ANSYS CFD.	357
Vasile Caunii and Adrian Sachelarie	
The Influence of Exhaust Backpressure Upon the Turbocharger's Boost Pressure	367
Levente-Botond Kocsis, Dan Moldovanu and Doru-Laurean Băldean	

Investigating Maintenance Procedures for Engine Air Filters	375
Marius Toma	
Fatigue Analysis for the Primary Shaft of a Mechanical Gearbox of a Car	385
Mario Trotea, Dumitru Neagoe, Loreta Simniceanu and Augustin Constantinescu	
Optimizing Combustion in an Single Cylinder GDI SI Engine.	395
Stelian Tarulescu, Radu Tarulescu and Cristian-Ioan Leahu	
On The Possibility to Reduce Diesel Engines Emissions by Operating with Biodiesel B20 in PPC Mode	405
Alexandru Racovitza, Bogdan Radu, Mohanad Aldhaidhawi and Radu Chiriac	
Public Transport—Feasible Solution for Sustainable Urban Mobility	419
Vasile Dragu, Eugen Roșca and Aura Ruscă	
Uncertainty in the Study of Automotives Dynamics and Analysis and Reconstruction of Car Crashes	431
Ramona-Monica Stoica, Marian-Eduard Rădulescu, Irinel Dinu, George Ene, Daniel Neagu and Ion Copae	
Assessment of Effective Elastic Properties of Honeycomb Cores by Modal Finite Element Analyses	443
Ștefan Sorohan, Dan Mihai Constantinescu, Marin Sandu and Adriana Georgeta Sandu	
Model Preparation for Structural FEA on Main Components of an Internal Combustion Engine	455
Dan Mihai Dogariu, Cristian Tănăsie, Anghel Chiru, Cristian-Ioan Leahu and Vlad Ștefan Stancu	
Dynamics of a Crank-Shaft Mechanism with Multiple Clearances by a Multibody Approach	463
Stănescu Nicolae–Doru	
Research Applied to Exhaust Gas After-Treatment Systems in 1.6 L Zsg 416 Ford Engine	475
Lucian-Vasile Crișan-Lupa, Adela-Ioana Borzan, Dan Moldovanu and Levente-Botond Kocsis	
Development of a Water Rankine System to Improve Diesel Engine Efficiency	485
Bogdan Radu, Alexandru Racovitza and Radu Chiriac	

Traffic Modeling Aspects Using Visum Software and Effects on the Traffic Optimization	495
Horea George Crişan and Nicolae Filip	
Performance Evaluation of Complex Intersections by Micro-simulation.	507
Sorin Ilie, Gabriela Mitran, Viorel Nicolae and Amalia Ana Dascăl	
Drag Phenomena Within a Torque Converter Driven Automotive Transmission—Laminar Flow Approach	517
Marin Marinescu, Octavian Alexa, Radu Vilau, Constantin-Ovidiu Ilie and Valentin Vinturis	
Analysis of Crashes at Intersections in Bucharest	529
Şerban Raicu, Dorinela Costescu and Ştefan Burciu	
The NVH Behaviour of a Powertrain Fixed on a Measurement Bench.	541
Andrei Daniel Calin, Nicolae Enescu, Radu Chiriac and Nicolae Orasanu	
Composite Materials Testing Method Steering Column Bracket Test	553
Lucian Eugen Rad, Anghel Chiru, Cristian Leahu and Dan Mihai Dogariu	
Calculation of the Steering Column Bracket Made of Composite Materials Reinforced with Continuous Fibers.	567
Lucian Rad, Anghel Chiru and Cristian Leahu	
A Method for 3D Geometry Scanning of a Combustion Chamber	577
Dan Mihai Dogariu, Ciprian Andrei, Bogdan Tiberiu Vieru, Radu Adrian Plămădeală and Anghel Chiru	
Researches to Improve the Reliability of Clutches with Dual-Mass Flywheel.	585
Valentin Nişulescu, Gheorghe Bancă, Marius Bâzgă and Alexndru Boroïu	
Theoretical and Practical Analysis of the in-Cylinder Tumble Motion	595
Dan Moldovanu and Adela Ioana Borzan	
Optimized Automotive Spark Ignition Engine.	605
Edward Rakosi, Sorinel Talif and Gheorghe Manolache	
Aspects Regarding the Evolution of the Depollution Norms and Test Cycles in Order to Determine Polluting Emissions	619
Gheorghe Bancă, Valentin Nişulescu and Gheorghe Frăţilă	

Measurement Equipment for Research of the Pressure Wave Compressors	633
Cristian-Ioan Leahu, Dan Mihai Dogariu, Anghel Chiru, George-Radu Toganel and Gabriel Mitroi	
Friction Analysis of a Two Stroke Engine	641
Sebastian Radu, Horia Abăitancei, Adrian Tuşinean, Gheorghe-Alexandru Radu and Marton Iakab-Peter	
Independent Suspension—The Equivalence of Model and Vehicle Parameters	651
Ion Preda	
Studies About Behavior of the Human Cervical—Head System During Frontal Crash Impact	665
Stefanita Ciunel and Bebe Tica	
Considerations on the Vehicles Identification and Classification in Traffic by the Length Criterion	677
Nicolae Filip, Adrian Dohotari and Jacint Kovacs	
Aspects Regarding Priority Settings in Unsignalized Intersections and the Influence on the Level of Service	687
Dumitru Ilie, Matei Lucian, Vîntorlu Matei, Racilă Laurenţiu and Oprica Theodor	
Influence of Tyre Pressure and Weight Distribution on Axles on the Theoretical Speed Ratio in the Running Gear System of Four-Wheel Drive Tractors	695
Mircea Nastasoiu and Nicolae Ispas	
The Development of a New Thermal Comfort Indexes	703
Catalin Adrian Neacsu and Mariana Ivanescu	
The Correlation Between the Tests and the Calculation Method in the Case of an Engine Mount	715
Gîrbovan Daniel, Nicolae Viorel and Vieru Ionel	
Dummy Kinematic Behaviour and Head Injuries Analysis in Frontal Collisions	723
Oana Victoria Oţăt, Ştefan Cristian Castravete and Victor Oţăt	
Theoretical and Experimental Research on the Torque Variation of the Body Passing Through Landmarks	733
Dumitru Neagoe, Dumitru Bolcu, Loreta Simniceanu and Mario Trotea	
The Simulation of the Vehicle Motion Based on Generalized Mathematical Model of Vehicle Motion	741
Loreta Simniceanu, Victor Otat, Trotea Mario and Mihaela Bogdan	

Research Regarding Night-Time Pedestrian Visibility	749
Bogdan Tolea, Daniel Trusca and Csaba Antonya	
Research Regarding the Effects of Emergency Vehicle Braking upon Its Occupants	757
Alexandru-Ionut Radu, Daniel-Dragos Trusca, Bogdan-Adrian Tolea and Corneliu Cofaru	
Effect of Water Injection at Inlet of Turbocharger on Compressor Performances	765
Podevin Pierre, Périlhon Christelle, Danlos Amélie, Punov Plamen, Nouri Hussain, Wagner Marc, Massouh Fawaz and Mansilla Raul	

Proceedings of the European Automotive Congress
EAEC-ESFA 2015

Andreescu, C.; Clenci, A. (Eds.)

2016, XVII, 782 p. 600 illus., 86 illus. in color.,

Hardcover

ISBN: 978-3-319-27275-7