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Titolo	Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering [[electronic resource] ] : I-DAD 2014, February 22 - 24, 2014 // edited by Ram P. Bajpai, U. Chandrasekhar, Avinash R. Arankalle
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Collana	Lecture Notes in Mechanical Engineering, , 2195-4356
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Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Keynotes: Flying with Cracks, Damage Tolerance and NDT Potential Contributions of the Fraunhofer Institute for Non-destructive Testing IZFP to Aeronautical Safety -- Non-destructive Techniques and Systems for Process and Quality Control in the Automotive and Supplier Industry -- Recent Developments of Mechanical and Fatigue Analyses of Fiber-reinforced Structures for Aerospace Applications -- Future Trends in the Development of Vehicle Bodies regarding Lightweight and Cost -- Stirling Engine Technology and its Application on Solar Power Generation -- R&T Effort Led by MBDA in the Field of Aero-propulsion -- Computational Fluid Dynamics – A Design Tool for Aircraft Industries -- Design and Development of Lighter-than-Air Systems -- Technological Trends in the Application of Advanced Materials in Automobiles -- A Synchronous Wound Excitation Transverse Flux Machine with Solid Rotor -- Chapters: An Approach to Improve Aviation

Quality Management using Total Quality Management Principles -- Design and Field Trials of a Payload Recovery Device for Tethered Aerostats -- Design of an Effective Subsonic Wing Cross-Section using Viscous-Inviscid Interactive Method -- Computational Study of Various Longitudinal Fin Profiles -- Dynamic Modeling and Simulation of Flapping Wings UAV -- Off Line Performance Measures of Two wheeler Engine -- In Automatic Objective Method -- Optimization of Variable Speed Turbo Coupling in Boiler Feed Pump -- Cyclic Life Estimation of Turbine Rotor Blade Fitted in a Twin Spool Turbojet Engine -- CFD Analysis of Swirl Enhancement in a Direct Injection Diesel Engine with Vortex Generator in Inlet Manifold -- Numerical Study of Air-Intake Performance of a Scramjet with Strut Blockage at Various Angle of Attacks -- Numerical Study of Aerodynamic Characteristics of Triangular Flapping Wing for MAV -- Numerical Analysis of Suppression of Laminar Bubble at Low Reynolds Number using Different Protrusions -- Numerical Simulation of Rayleigh-Bernard Convection in Enclosures Filled with Nanofluid -- A Conceptual Design of Versatile Furtive Craft -- Reduction of the Passage between the Flame Tubes of the Combustor for a Millimetre Size Gas Turbine Engine in the Art of Micro Machine Technology -- Influence of Temperature on Mechanical Characterisation of Basalt/Epoxy Owen Fabric Composites -- Designing and Controlling the Performance of FMS - Application of Principle Component Analysis -- Improved Methods for Thermal and Compression Testing of Carbon Foams -- Integration of eLCAR Guidelines into Vehicle Design -- Design of Magnetic Wheel Rotor -- The Effect of Injection Pressure on Engine Performance while the Engine is running on Electrolytically Generated Hydrogen Oxygen Mixture -- Design and Fabrication of Air Pre-heater for Diesel Engine -- Studies on Tropical Conditions in Hot Sunny Days in India and their Effects on Interior Temperature Rise in Truck Cabin -- Impact of Co<sub>2</sub> addition on Syngas Formation in the Catalytic Partial Oxidation of Methane -- Fabrication of Bamboo Fiber Reinforced Polylactide Biocomposites -- Emission Control by Selective Exhaust Gas Recirculation Scavenging System in Two Stroke Engine -- Design of Airfoil using Back Propagation Training with Combined Approach -- Improvement of Performance and Emission Characteristics of Diesel Engines using TBC and Emerging Techniques - A Review.

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#### Sommario/riassunto

The book presents the best articles presented by researchers, academicians and industrial experts in the International Conference on “Innovative Design, Analysis and Development Practices in Aerospace and Automotive Engineering”. The book discusses new concept designs, analysis and manufacturing technologies, where more swing is for improved performance through specific and/or multifunctional linguistic design aspects to downsize the system, improve weight to strength ratio, fuel efficiency, better operational capability at room and elevated temperatures, reduced wear and tear, NVH aspects while balancing the challenges of beyond Euro IV/Barat Stage IV emission norms, Greenhouse effects and recyclable materials. The innovative methods discussed in the book will serve as a reference material for educational and research organizations, as well as industry, to take up challenging projects of mutual interest.

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