

2007 Best Papers

During 2007, the following technical papers were selected as a "Best Paper." Authors received a certificate of merit, recognizing technical and scientific excellence.

AAS/AIAA Astrodynamics Specialist Best Paper

AAS 06-6285, "The Partition Of Unity Finite Element Approach To The Stationary Fokker-Planck Equation" by Mrinal Kuram, Puneet Singla, Suman Chakravorty and John Junkins of Texas A&M University, College Station, Texas.

AAS/AIAA Space Flight Mechanics Best Paper

AAS 07-153, "Control of Interferometric Spacecraft Arrays For (u, v) Plane Coverage in Multi-Body Regimes" by Lindsay D. Millard and Kathleen C. Howell.

AIAA Aerospace Measurement Technology Best Paper

AIAA 2006-1532, "Visualization of a Capsule Entry Vehicle Reaction-Control System (RCS) Thruster," by Paul Danehy, J. Wilkes, G. Brauckmann, D. Alderfer, and S. Jones, NASA Langley Research Center, Hampton, Virginia, and D. Patry, Swales Aerospace, Hampton, Virginia.

AIAA Aerospace Power Systems Best Papers

AIAA 2006-4015, "Developmental Considerations on the Free-Piston Stirling Power Converter for Use in Space," by Jeffrey Schreiber, NASA Glenn Research Center at Lewis Field, Cleveland, Ohio.

AIAA 2006-4029 "The Pluto-New Horizons RTG and Power System Early Mission Performance," by Geoffrey Ottman and Chris Hersman, Johns Hopkins University, Applied Physics Laboratory, Laurel, Maryland.

AIAA Aerospace Power Systems Best Student Paper

AIAA 2006-4022 "NEPTUNE Power System: Science Node Converter Startup Operations Design and Implementation Circuit," by Shuai Lu, M. El-Sharkawi, and Bruce Howe, University of Washington, Seattle, Washington, and H. Kirkham and V. Vorperian, Jet Propulsion Laboratory, Pasadena, California.

AIAA Air Breathing Propulsion Best Paper

AIAA 2007-1251, "Internal Flow Dynamics in a Valveless Airbreathing Pulse Detonation Combustor Facility," by Fuhua Ma, Jeong-Yeoi Choi, and Vigor Yang of Pennsylvania State University, University Park, Pennsylvania.

AIAA Applied Aerodynamics Best Paper

AIAA 2007-0752, "Re-No. Scaling Effects on the EUROLIFT High Lift Configurations," by Ralf A. Rudnik, German Aerospace Center Institute, Braunschweig, Germany, and Eric Germain, European Transonic Wind Tunnel Test Projects, Cologne, Germany.

AIAA Air Transportation Systems and Operations Best Paper

AIAA 2006-7807, "A Multiple-Scale Model of Wind-Prediction Uncertainty and Application to Trajectory Prediction," by Stephane Mondoloni CSSI, Inc., Washington D.C.

AIAA Atmospheric Flight Mechanics Best Paper

AIAA 2006-6495, "Identifying a PIO Signature - New Techniques Applied to an Old Problem," by David Mitchell, Hoh Aeronautics, Lomita, California and David Klyde, Systems Technology, Inc., Cerritos, California.

AIAA David Weaver Best Student Paper

AIAA 2006-1491, "Carbon-Fibre-Reinforced Ceramic Matrix Composites for High-Temperature Applications," by Cynthia Chan and Andrew Ruys of the University of Sydney, Sydney, Australia.

AIAA Electric Propulsion TC Best Papers

AIAA 2005-4234, "Theoretical Model of a Hollow Cathode Plasma for the Assessment of Insert and Keeper Lifetimes" by Ioannis Mikellides, Ira Katz, Dan Goebel, and James Polk, Jet Propulsion Laboratory, Pasadena, California.

AIAA 2006-4318, "Powered Flight of HAYABUSA in Deep Space," by Hitoshi Kuninaka, Kazutaka Nishiyama, Ikko Funaki, Tetsuya Yamada, Yukio Shimizu and Jun'ichiro Kawagushi, Japan Aerospace Exploration Agency, Kanagawa, Japan.

AIAA Energetic Comp & Systems Best Paper

AIAA 2006-4984, "Evaluation of Explosively Actuated Valve Components Using a Gas Gun," by Jose M. Tafoya, Michele Decroix, Michael Inbody and Jose I. Tafoya of Los Alamos National laboratory, Los Alamos, New Mexico.

AIAA Fluid Dynamics Best Paper

AIAA 2006-3226, "Localized Disturbances and Their Relation to Turbulent Shear Flows," by Jacob Cohen, Pinhas Bar-Yoseph, and Jimmy Philip, Technion-Israel Institute of Technology, Haifa, Israel, Victoria Suponitsky, University of London, London, U.K., and Alexander Svizher, Kla-Tencor Corporation, Migdal Ha-Emek, Israel.

AIAA Gossamer Spacecraft Forum Best Paper

AIAA 2006-1708, "Solar Sail Topology Variations Due to On-Orbit Thermal Effects." By Jeremy Banik, South Dakota School of Mines, Rapid City, South Dakota, Peter Lively and Barmac Taleghani, NASA Langley Research Center, Hampton, Virginia and Christopher Jenkins, Montana State University, Bozeman, Montana.

AIAA Guidance, Navigation, and Control Best Paper

AIAA 2006-6332, "Evolving Systems: A Theoretical Foundation," by Mark Balas and Susan Frost, University of Wyoming, Laramie, Wyoming, and Fred Hadaegh, Jet Propulsion Laboratory, Pasadena, California.

AIAA Hybrid Rockets Best Paper

AIAA 2006-4501, "Optimal Design of Hybrid Rockets with Self-Pressurizing Oxidizer," by Lorenzo Casalino and Dario Pastrone, Politecnico Di Torino, Torino, Italy.

AIAA Intelligent Systems Best Paper

AIAA 2005-7046 "Demonstration of Digital Pheromone Swarming Control of Multiple Unmanned Air Vehicles" by John Sauter and Sven Brueckner, NewVectors LLC, Ann Arbor, Michigan and R. Matthews and H. Van Dyke Parunak, Altarum Institute, Ann Arbor, Michigan.

AIAA Liquid Propulsion Best Paper

AIAA 2006-4721 "High Frequency Injection Coupled Combustion Instabilities-Study of Combustion Chamber/Feed System Coupling," by Massimiliano De Benedictis and Gerard Ordonneau, ONERA, Chatillon, France.

AIAA Meshing Visualization and Computational Environments Best Paper

AIAA 2006-0531 "Unstructured Viscous Layer Insertion Using Linear-Elastic Smoothing" by Steve Karman, University of Tennessee at Chattanooga.

AIAA Modeling and Simulation Best Papers

AIAA 2006-6628, "Integration of Size and Binocular Disparity Visual Cues in Manual Depth-Control Tasks," by Barbara Sweet and Mary Kaiser, NASA Ames Research Center, Moffett Field, California.

AIAA 2006-6816, "Modelling of Generic Slung Load System," by Morten Bisgaard, Jan Dimon Bendtsen and Anders la Cour-Harbo, Aalborg University, Aalborg, Denmark.

AIAA Plasmadynamics and Lasers Best Papers

AIAA 2007-1228, "Optimization of Laser-Pulse-Controlled MW Energy Deposition" by Yuri F Kolesnichenko, D. V. Khmara, S. A. Afanas'ev and V. G. Brovkin, Russian Academy of Sciences, Moscow, Russia.

AIAA 2007-1232, "Transformations of Front Separation Regions Controlled by Upstream Energy Deposition," by Pavel Yu Georgievsky, Moscow State University, Moscow, Russia, and Vladimir A Levin, Russian Academy of Sciences, Vladivostok, Russia.

AIAA Plasmadynamics and Lasers Best Student Paper

AIAA 2006-3072, "Adaptive-Optic Correction of a Regularized Compressible Shear Layer," by Alice Nightingale, University of Notre Dame, Notre Dame, Indiana.

AIAA Propellants and Combustion Best Paper

AIAA 2006-4397, "Interactions Between Propellant Jets And Acoustic Modes In Liquid Rocket Engines: Experiments And Simulations," by Franck Richecoeur, P. Scouflaire, Sebastian Ducruix, and Sebastian Candel, Centre National de la Recherche Scientifique, Chatenay-Malabry, France.

AIAA Solid Rockets Best Paper

AIAA 2006-4424, "Detailed Analysis of the Thrust Oscillations in Reduced Scale Solid Rocket Motors" by Francois Chedevergne and Gregoire Casalis, ONERA, Toulouse, France.

AIAA Terrestrial Energy Best Paper

AIAA 2007-1003, "Power Transmission to a Micro Aerial Vehicle," by Shuhei Komatsu, Kenta Katsunaga, Ryoji Ozawa, Kimiya Komurasaki, and Yoshihiro Arakawa, University of Tokyo, Kashiwa, Japan.

AIAA Thermophysics Best Paper

AIAA 2006-3427, "Excitation of Surface Plasmons with Gold Microspheres," by Shao Chen, John Howell, Alex Heltzel, and Senthil Theppakuttai of the University of Texas at Austin, Austin, Texas.

ASEE Best Paper

AIAA 2006-5145, "How to Teach Complex, Scientific Concepts to Elementary and Middle School Students" by Margy Natalie, National Air & Space Museum, Steven F. Udvar-Hazy Center, Chantilly, Virginia.

ASME/Boeing Best Paper

AIAA 2006-1694, "A Study of Impacted Electromechanically Loaded Composite Plates." By Oleysa Zhupanska, University of Florida, Shalimar, Florida and Robert Sierakowski, Air Force Research Laboratory, Eglin Air Force Base, Florida,

ASME Propulsion TC Best Paper

AIAA 2006-4415, "Parametric Investigation of Controlling Factors for Deceleration and Evacuation Qualities by Supersonic Diffuser," by Byung Hoon Park, Ji Hwan Lim, and Woongsup Yoon, Yonsei University, Seoul, South Korea, Ji Hyung Lee, Agency For Defense Development, Daejeon, South Korea, and Yeol Lee, Hankuk Aviation University, Kyounggi-Do, South Korea.

Jefferson Goblet Student Paper

AIAA 2007-2057, "Sensor Placement for Damage Detection in Nonlinear Systems Using System Augmentations" by K. D'Souza and B. Epureanu, University of Michigan, Ann Arbor, Michigan.