

复杂航天领域动态

2017年第6期（总第13期）2017年11月

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本期概要：

本期动态专题扫描了基于模型的航天系统工程及综合评估及应用在基于模型的系统工程、任务建模、需求分析、系统指标分配、鲁棒性效能评估、权重分配，这6个研究方向发表的论文情况。

【研究动态：基于模型的航天系统工程及综合评估】

航天系统工程理论和方法是以钱学森为代表的中国航天工作者在具体工程实践中，将科学技术创新、组织管理创新和体制机制创新有机结合，将还原论与整体论辩证有机地统一，形成的解决复杂工程系统研制与建设的集成创新的理论和方法。广义的系统工程定义为组织管理复杂系统的规划、研究、设计、制造、试验和使用的科学方法，是一种对所有系统都具有普遍意义的科学方法。航天系统工程是组织管理航天型号规划、计划、预研、研制、试验、生产以及人才、物资、保障条件、经费的科学体系与方法，覆盖了全过程、全方位，内容十分丰富。

◇ 基于模型的系统工程 (model based systems engineering) ¹

通过检索 EI 数据库, 2015 年以来在基于模型的系统工程在基于模型的航天系统工程及综合评估研究方向涉及 9 篇最新的研究论文:

- 1. On languages for conceptual data modeling in multi-disciplinary space systems engineering**
Hennig, Christian (Intelligent Systems and Production Engineering, FZI Research Center for Information Technology, Karlsruhe, Germany); Eisenmann, Harald; Viehl, Alexander; Bringmann, Oliver **Source:** *MODELSWARD 2015 - 3rd International Conference on Model-Driven Engineering and Software Development, Proceedings*, p 384-393, 2015, *MODELSWARD 2015 - 3rd International Conference on Model-Driven Engineering and Software Development, Proceedings*
Database: Compendex
- 2. Digital Space Systems Engineering through Semantic Data Models**
Hoppe, Tobias (Airbus DS GmbH, Friedrichshafen; 88039, Germany); Eisenmann, Harald; Viehl, Alexander; Bringmann, Oliver **Source:** *Proceedings - 2017 IEEE International Conference on Software Architecture, ICSA 2017*, p 93-96, May 16, 2017, *Proceedings - 2017 IEEE International Conference on Software Architecture, ICSA 2017*
Database: Compendex
- 3. SCDML: A language for conceptual data modeling in model-based systems engineering**
Hennig, Christian (Space Systems, Airbus Defence and Space, Friedrichshafen, Germany); Hoppe, Tobias; Eisenmann, Harald; Viehl, Alexander; Bringmann, Oliver **Source:** *MODELSWARD 2016 - Proceedings of the 4th International Conference on Model-Driven Engineering and Software Development*, p 184-192, 2016, *MODELSWARD 2016 - Proceedings of the 4th International Conference on Model-Driven Engineering and Software Development*
Database: Compendex
- 4. A methodology for deriving conceptual data models from systems engineering artefacts**
Hennig, Christian (Space Systems, Airbus Defence and Space, Friedrichshafen, Germany); Eisenmann, Harald; Viehl, Alexander; Bringmann, Oliver **Source:** *MODELSWARD 2016 - Proceedings of the 4th International Conference on Model-Driven Engineering and Software Development*, p 497-508, 2016, *MODELSWARD 2016 - Proceedings of the 4th International Conference on Model-Driven Engineering and Software Development*

¹ EI 数据库检索策略: (((("space systems engineering") WN KY) AND ((model or modeling) WN KY))) AND ((2015 OR 2017) WN YR)

Database: Compendex

5. Scenic model control: A simulation system for space communications networks

Best, Derrick (NASA Glenn Research Center, Cleveland; OH; 44135, United States); Chan, Truman; Farr, Ryan; Halperin, Erik; Kraus, Jeff; Maroney, Francesca; Srivastava, Priyanka; Thompson, Kyle **Source:** *Proceedings of the International Astronautical Congress, IAC, v 5, p 3747-3773, 2015, 66th International Astronautical Congress 2015, IAC 2015: Space - The Gateway for Mankind's Future*

Database: Compendex

6. Nuclear-pumped lasers

Prelas, Mark (Electrical and Computer Engineering Department, University of Missouri, Columbia; MO, United States) **Source:** *Nuclear-Pumped Lasers*, p 1-417, January 1, 2015

Database: Compendex

7. A real-time launching calibration system and failure analysis approach for the real-time mexican satellite space launch center

Prieto, Omar Ariosto Niño (Guadalajara Design and Invention Center, Research and Development, OneSide Tech., Calle del Bosque 6181, Puebla, Pue.; C.P. 72450, Mexico); Ciriaco, Francisco Ruiz; Ayala, Vicente Guevara; Carranza, Cuauhtemoc Covarrubias; García, José Luis Sampayo **Source:** *Proceedings of the International Astronautical Congress, IAC, 2016, IAC 2016 - 67th International Astronautical Congress: Making Space Accessible and Affordable to All Countries*

Database: Compendex

8. Proceedings - 2017 IEEE International Conference on Software Architecture, ICSA 2017

Source: *Proceedings - 2017 IEEE International Conference on Software Architecture, ICSA 2017, May 16, 2017, Proceedings - 2017 IEEE International Conference on Software Architecture, ICSA 2017*

Database: Compendex

9. Development and evaluation of system engineering software tools for the space station design workshop

Nathanson, Emil (Institute of Space Systems, University of Stuttgart, Germany); Nizenkov, Paul; Fasoulas, Stefanos; Messerschmid, Ernst **Source:** *Proceedings of the International Astronautical Congress, IAC, v 11, p 8561-8571, 2015, 66th International Astronautical Congress 2015, IAC 2015: Space - The Gateway for Mankind's Future*

Database: Compendex

◇ 任务建模 (mission modeling) ²

通过检索 EI 数据库, 2016 年以来任务建模在基于模型的航天系统工程及综合评估研究方向涉及 11 篇最新的研究论文:

1. Deployment/retraction of the rotating Hub-Spoke Tethered Formation System

Huang, Panfeng (National Key Laboratory of Aerospace Flight Dynamics, Northwestern Polytechnical University, Xi'an; 710072, China); Zhao, Yakun; Zhang, Fan; Ma, Jun; Meng, Zhongjie; Liu, Zhengxiong; Zhang, Yizhai **Source:** *Aerospace Science and Technology*, v 69, p 495-503, October 2017

Database: Compendex

2. Numerical estimation of the radiation hardness of bipolar integrated circuits in various irradiation conditions of space environment

Bakrenkov, Alexander S. (National Research Nuclear University MEPhI (Moscow Engineering Physics Institute), Department of Micro- and nanoelectronics, Moscow, Russia); Pershenkov, V.S.; Rodin, A.S.; Felitsyn, V.A.; Miroshnichenko, A.G. **Source:** *IFMBE Proceedings*, v 55, p 524-527, 2016, 3rd International Conference on Nanotechnologies and Biomedical Engineering - ICNBME-2015

Database: Compendex

3. Experimental evaluation of a Dielectric Elastomer robotic arm for space applications

Branz, F. (Centre of Studies and Activities for Space "G. Colombo", University of Padova, via Venezia 15,

²EI 数据库检索策略: (((((((({SPACE}) WN CV)) OR ({SPACE APPLICATION}) WN CV)) OR ({SPACE APPLICATIONS}) WN CV)) OR ({SPACE ENGINEERING}) WN CV)) AND (((model or modeling) WN KY) + ({numerical models} OR {design}) WN CV) AND ((2016 OR 2017) WN YR)

- Padova; 35131, Italy); Francesconi, A. **Source:** *Acta Astronautica*, v 133, p 324-333, April 1, 2017
Database: Compendex
4. **Two-scale computation of N₂-H₂jet flow based on QGD and MMD on heterogeneous multi-core hardware**
Kudryashova, T. (Keldysh Institute of Applied Mathematics RAS, Moscow, Russia); Karamzin, Yu.; Podryga, V.; Polyakov, S. **Source:** *Advances in Engineering Software*, July 10, 2015
Article in Press
Database: Compendex
 5. **Dependence analysis of the GaN HEMT parameters for space application on the thickness AlGaIn barrier layer by numerical simulation**
Aleksandr, Gudkov (Department 'Design and Technology of Radioelectronic Devices', Bauman Moscow State Technical University, Moscow, Russia); Shashurin, Vasily; Vyuginov, Vladimir; Tikhomirov, Vladimir; Vidyakin, Svyatoslav; Agasieva, Svetlana; Chizhikov, Sergey **Source:** *2017 2nd International Conference on Opto-Electronic Information Processing, ICOIP 2017*, p 79-82, September 8, 2017, *2017 2nd International Conference on Opto-Electronic Information Processing, ICOIP 2017*
Database: Compendex
 6. **Piezoelectric ultrasonic traveling wave motor**
Morega, Alexandru M. (Department of Electrical Engineering, University POLITEHNICA of Bucharest, Bucharest, Romania); Morega, Mihaela; Pîslaru-Dănescu, Lucian **Source:** *2016 International Conference on Applied and Theoretical Electricity, ICATE 2016 - Proceedings*, November 22, 2016, *2016 International Conference on Applied and Theoretical Electricity, ICATE 2016 - Proceedings*
Database: Compendex
 7. **Design improvement for acoustic comfort of a small indoor space**
Shih, H.Y. (Chia Nan University of Pharmacy and Science, Tainan City, Taiwan); Chou, Y.T.; Lai, P.Y.; Hsia, S.Y. **Source:** *Applied System Innovation - Proceedings of the International Conference on Applied System Innovation, ICASI 2015*, p 1131-1136, 2016, *Applied System Innovation - Proceedings of the International Conference on Applied System Innovation, ICASI 2015*
Database: Compendex
 8. **Improvement on acoustic characteristics of a small space using material selection**
Shih, Hsin-Yi (Department of Applied Geoinformatics, Chia Nan University of Pharmacy and Science, Tainan City, Taiwan); Chou, Yu-Tuan; Hsia, Shao-Yi **Source:** *Engineering Computations (Swansea, Wales)*, v 33, n 6, p 1800-1809, August 1, 2016
Database: Compendex
 9. **Softworms: The design and control of non-pneumatic, 3D-printed, deformable robots**
Umedachi, T. (Department of Biology, School of Arts and Sciences, Tufts University, 200 Boston Ave., Medford; MA, United States); Vikas, V.; Trimmer, B.A. **Source:** *Bioinspiration and Biomimetics*, v 11, n 2, March 10, 2016
Database: Compendex
 10. **Design of shape memory alloy actuated intelligent parabolic antenna for space applications**
Kalra, Sahil (Department of Mechanical Engineering, Indian Institute of Technology Kanpur, India); Bhattacharya, Bishakh; Munjal, B.S. **Source:** *Smart Materials and Structures*, v 26, n 9, August 9, 2017
Database: Compendex
 11. **Optimized decentralized control of large scale systems**
Shi, Xiao Qi (Department of ECE, University Of Toronto, Canada); Davison, Daniel E.; Kwong, R.; Davison, Edward J. **Source:** *IEEE International Conference on Control and Automation, ICCA*, v 2016-July, p 127-134, July 7, 2016, *12th IEEE International Conference on Control and Automation, ICCA 2016*
Database: Compendex

◇ 需求分析 (requirement decomposition)³

通过检索 EI 数据库, 2015 年以来需求分析在基于模型的航天系统工程及综合评估研究方向涉 13 最新的研究论文:

1. **Requirements analysis on collaborative detection and tracking of near space high-speed targets**
Fu, Qiang (School of Air And Missile Defense, Air force Engineering University, Xi'an, China); Wang, Gang; Guo, Xiang-Ke; Liu, Chang-Yun; Zhang, Xiao-Kuan **Source:** *Xi Tong Gong Cheng Yu Dian Zi Ji Shu/Systems Engineering and Electronics*, v 37, n 4, p 757-762, April 1, 2015 **Language:** Chinese
Database: Compendex
2. **Finding boundary elements in ordered sets with application to safety and requirements analysis**
Bendík, Jaroslav (Faculty of Informatics, Masaryk University, Brno, Czech Republic); Beneš, Nikola; Barnat, Jiří; Černá, Ivana **Source:** *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, v 9763, p 121-136, 2016, *Software Engineering and Formal Methods - 14th International Conference, SEFM 2016 Held as Part of STAF 2016, Proceedings*
Database: Compendex
3. **Accurate establishment of error models for the satellite gravity gradiometry recovery and requirements analysis for the future GOCE follow-on mission**
Zheng, Wei (Qian Xuesen Laboratory of Space Technology, China Academy of Space Technology, Beijing, China); Wang, Zhaokui; Ding, Yanwei; Li, Zhaowei **Source:** *Acta Geophysica*, v 64, n 3, p 732-754, May 1, 2016
Database: Compendex
4. **Performance analysis patterns for requirements analysis**
Alebrahim, Azadeh (Paluno - The Ruhr Institute for Software Technology, University of Duisburg, Essen, Germany) **Source:** *CEUR Workshop Proceedings*, v 1326, p 54-66, 2015
Database: Compendex
5. **Big data in mission operations, the ExoMars 2016 experience**
Montroni, Gianluca (Ground System Engineering Department, HE Space Operations GmbH at European Space Agency, European Space Operations Centre(ESOC), Darmstadt, Germany); Pantoquilha, Marta; Santos, Rui **Source:** *AIAA Space and Astronautics Forum and Exposition, SPACE 2016, 2016, AIAA Space and Astronautics Forum and Exposition, SPACE 2016*
Database: Compendex
6. **A case study of using grounded analysis as a requirement engineering method: Identifying personas that specify privacy and security tool users**
Dupree, Janna-Lynn (David R. Cheriton School of Computer Science, University of Waterloo, Waterloo, ON N2L 3G1, Canada); Lank, Edward; Berry, Daniel M. **Source:** *Science of Computer Programming*, 2017
Article in Press
Database: Compendex
7. **Addressing the state explosion problem when visualizing off-nominal behaviors in a set of reactive requirements**
Aceituna, Daniel (Distek Integration Inc., Cedar Falls, IA, United States); Do, Hyunsook **Source:** *Requirements Engineering*, p 1-20, September 14, 2017
Article in Press
Database: Compendex
8. **Proposal for requirements driven design science research**
Braun, Richard (Chair of Wirtschaftsinformatik, esp. Systems Development, Technische Universität Dresden, Dresden, Germany); Benedict, Martin; Wendler, Hannes; Esswein, Werner **Source:** *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, v 9073, p 135-151, 2015
Database: Compendex

³EI 数据库检索策略: (((((((("REQUIREMENTS DECOMPOSITION" OR "REQUIREMENTS ANALYSIS")) WN KY) AND ((space) WN KY))) AND (({requirements engineering} OR {computer software} OR {nasa}) WN CV)))) AND ((2015 OR 2017) WN YR)

9. **A model based approach for realizing a safe wireless biotelemetry system**
Duncan, Kerron R. (Electrical and Computer Engineering Department, Johns Hopkins University, Baltimore; MD; 21218, United States); Etienne-Cummings, Ralph **Source:** *Proceedings - IEEE International Symposium on Circuits and Systems*, September 25, 2017, *IEEE International Symposium on Circuits and Systems: From Dreams to Innovation, ISCAS 2017 - Conference Proceedings*
Database: Compendex
10. **Process patterns for requirement consistency analysis**
Nistala, Padmalata V. (TCS Research, Tata Consultancy Services, India); Nori, Kesav V.; Natarajan, Swaminathan **Source:** *ACM International Conference Proceeding Series*, July 6, 2016, *Proceedings of the 21st European Conference on Pattern Languages of Programs, EuroPLoP 2016*
Database: Compendex
11. **Ordering interrogative questions for effective requirements engineering: The W6H pattern**
Sultan, Mujahid (Treasury Board Secretariat, Government of Ontario, Toronto, Canada); Miranskyy, Andriy **Source:** *5th International Workshop on Requirements Patterns, RePa 2015 - Proceedings*, p 1-8, February 16, 2016, *5th International Workshop on Requirements Patterns, RePa 2015 - Proceedings*
Database: Compendex
12. **Goal model driven alternative selection: A quantitative approach**
Zhao, Tianqi (Key Laboratory of High Confidence Software Technology, Ministry of Education, Peking University, Beijing, China); Zhao, Haiyan; Zhang, Wei; Jin, Zhi **Source:** *5th International Model-Driven Requirements Engineering Workshop, MoDRE 2015 - Proceedings*, p 63-72, December 2, 2015, *5th International Model-Driven Requirements Engineering Workshop, MoDRE 2015 - Proceedings*
Database: Compendex
13. **A Case-driven Methodology for the Interdisciplinary Development and Examination of Mental Architectures**
Schaat, Samer (Institute of Computer Technology, TU Wien, Vienna, Austria) **Source:** *Procedia Computer Science*, v 88, p 429-437, 2016, *7th Annual International Conference on Biologically Inspired Cognitive Architectures, BICA 2016*
Database: Compendex

◇ 系统指标分配 (system index distribution) ⁴

通过检索 EI 数据库, 2016 年以来系统指标分配在基于模型的航天系统工程及综合评估研究方向涉及 9 篇最新的研究论文:

1. **Strong confinement of THz pulse by femtosecond laser filamentation**
Zhao, Jiayu (Institute of Modern Optics, Nankai University, Key Laboratory of Optical Information Science and Technology, Ministry of Education, Tianjin; 300071, China); Yang, Jing; Chen, Ping; Gong, Cheng; Sun, Lu; Liu, Weiwei **Source:** *International Conference on Infrared, Millimeter, and Terahertz Waves, IRMMW-THz*, 2016-November, November 28, 2016, *41st International Conference on Infrared, Millimeter and Terahertz Waves, IRMMW-THz 2016*
Database: Compendex
2. **Strong confinement of THz pulse by femtosecond laser filamentation**
Zhao, Jiayu (Institute of Modern Optics, Nankai University, Key Laboratory of Optical Information Science and Technology, Ministry of Education, Tianjin; 300071, China); Zhang, Nan; Chen, Ping; Gong, Cheng; Sun, Lu; Lin, Lie; Wang, Xiaolei; Liu, Weiwei **Source:** *Optics InfoBase Conference Papers*, v Part F54-NLO 2017, 2017, *Nonlinear Optics, NLO 2017*
Database: Compendex
3. **Improved algorithm of ray tracing in ICF cryogenic targets**
Zhang, Rui (College of Optical Science and Engineering, State Key Laboratory of Modern Optical Instrumentation, Zhejiang University, Hangzhou; 310027, China); Yang, Yongying; Ling, Tong; Jiang, Jiabin **Source:** *Proceedings of SPIE - The International Society for Optical Engineering*, v 10021, 2016, *Optical Design and Testing VII*

⁴EI 数据库检索策略: (((("index distribution") WN KY) AND ((space) WN KY))) AND ((2016 OR 2017) WN YR)

Database: Compendex

4. **Analysis of radiative heat transfer in two-dimensional semitransparent medium with piece-wise constant refractive index**

Zhang, Yong (Center for Composite Materials and Structures, Harbin Institute of Technology, Harbin; 150080, China); Xie, Xiang-Qian; Yi, Hong-Liang; Zhu, Jia-Qi **Source:** *International Journal of Heat and Mass Transfer*, v 115, p 482-487, 2017

Database: Compendex

5. **Statistical dispersion relation for spatially broadband fields**

Shan, Mingguang (Quantitative Light Imaging Laboratory, Department of Electrical and Computer Engineering, Beckman Institute for Advanced Science and Technology, University of Illinois at Urbana-Champaign, Urbana; IL; 61801, United States); Nastasa, Viorel; Popescu, Gabriel **Source:** *Optics Letters*, v 41, n 11, p 2490-2492, June 1, 2016

Database: Compendex

6. **Design of metamaterial lens for antenna array**

Du, Guohong (School of Electronic Engineering, Chengdu University of Information Technology, Chengdu; 610225, China); Lan, Junqing; Sun, Haoran **Source:** *ISAP 2016 - International Symposium on Antennas and Propagation*, p 180-181, January 17, 2017, *ISAP 2016 - International Symposium on Antennas and Propagation*

Database: Compendex

7. **Light absorption enhancement in thin-film GaAs solar cells with flattened light scattering substrates**

Sai, Hitoshi (Research Center for Photovoltaics, National Institute of Advanced Industrial Science and Technology (AIST), Central 2, Umezono 1-1-1, Tsukuba, Ibaraki; 305-8568, Japan); Mizuno, Hidenori; Makita, Kikuo; Matsubara, Koji **Source:** *Journal of Applied Physics*, v 122, n 12, September 28, 2017

Database: Compendex

8. **A symmetrical surface plasmon resonance sensing structure excited by a stripe waveguide**

Yang, Haima (School of Optical-Electrical and Computer Engineering, University of Shanghai for Science and Technology, Shanghai; 200093, China); Song, Jia; Zhang, Dawei; Huang, Yuanshen **Source:** *Optik*, v 127, n 20, p 8629-8637, October 1, 2016

Database: Compendex

9. **Ray tracing simulation of aero-optical effect using multiple gradient index layer**

Yang, Seul Ki (Space Optics Laboratory, Dept. of Astronomy, Yonsei University, 03722, Korea, Republic of); Seong, Sehyun; Ryu, Dongok; Kim, Sug-Whan; Kwon, Hyeuknam; Jin, Sang-Hun; Jeong, Ho; Kong, Hyun Bae; Lim, Jae Wan; Choi, Jong Hwa **Source:** *Proceedings of SPIE - The International Society for Optical Engineering*, v 9987, 2016, *Electro-Optical and Infrared Systems: Technology and Applications XIII*

Database: Compendex

◇ 鲁棒性效能评估 (robust effective evaluation) ⁵

通过 EI 数据库检索, 2017 年以来鲁棒性效能评估在基于模型的航天系统工程及综合评估研究方向涉及 26 篇最新的研究论文:

1. **A combined impedance-PD approach for controlling a dual-arm space manipulator in the capture of a non-cooperative target**

Stolfi, A. (Department of Mechanical and Aerospace Engineering, Sapienza Università di Roma, Rome, Italy); Gasbarri, P.; Sabatini, M. **Source:** *Acta Astronautica*, v 139, p 243-253, October 2017

Database: Compendex

2. **Observer-based robust task-space control of robot manipulators using Legendre polynomial**

Gholipour, Reza (Department of Electrical and Robotic Engineering, Shahrood University of Technology,

⁵EI 数据库检索策略: (((((((((((({ROBUST CONTROL}) WN CV)) OR (({ROBUST SYSTEMS}) WN CV)) OR (({ROBUST PERFORMANCE}) WN CV)) OR (({ROBUST MECHANISMS}) WN CV)) OR (({ROBUSTNESS}) WN CV)) OR (({ROBUSTNESS (CONTROL SYSTEMS)}) WN CV)) AND ((effective) WN KY)) AND ((space applications) WN KY)) AND ((2017) WN YR)

- Shahrood; 3619995161, Iran); Fateh, Mohammad Mehdi **Source:** *2017 25th Iranian Conference on Electrical Engineering, ICEE 2017*, p 766-771, July 19, 2017, *2017 25th Iranian Conference on Electrical Engineering, ICEE 2017*
Database: Compendex
3. **Observer-based two-time scale robust control of free-flying flexible-joint space manipulators with external disturbances**
 Yu, Xiaoyan (School of Mechanical Engineering and Automation, Fuzhou University, Fuzhou, Fujian Province; 350116, China); Chen, Li **Source:** *Robotica*, v 35, n 11, p 2201-2217, November 1, 2017
Database: Compendex
 4. **Feedback Linearization and Extended State Observer-Based Control for Rotor-AMBs System with Mismatched Uncertainties**
 Liu, Chao (School of Instrumentation Science and Optoelectronics Engineering, Beihang University, Beijing; 100191, China); Liu, Gang; Fang, Jiancheng **Source:** *IEEE Transactions on Industrial Electronics*, v 64, n 2, p 1313-1322, February 2017
Database: Compendex
 5. **A Robust Yaw and Pitch Estimation Method for Mini-InSAR System**
 Fu, Xikai (National Key Laboratory of Microwave Imaging Technology, Institute of Electronics, Chinese Academy of Sciences, Beijing 100190, China and also with the School of Electronics, Electrical and Communication Engineering, University of Chinese Academy of Sciences, Beijing 100049, China.(e-mail: xikai@163.com)); Xiang, Maosheng; Wang, Bingnan; Jiang, Shuai; Sun, Xiaofan **Source:** *IEEE Geoscience and Remote Sensing Letters*, October 11, 2017
 Article in Press
Database: Compendex
 6. **Linear parameter varying (LPV) based robust control of type-I diabetes driven for real patient data**
 Kovács, Levente (Physiological Controls Research Center, University Research and Innovation Center, Óbuda University John von Neumann Faculty of Informatics, Óbuda University, Bécsi út 96/b, H-1034, Budapest, Hungary) **Source:** *Knowledge-Based Systems*, v 122, p 199-213, April 15, 2017
Database: Compendex
 7. **Optimal Preview Position Control for Automotive Electronic Throttle**
 Zhang, Bangji (State Key Laboratory of Advanced Design and Manufacturing for Vehicle Body, Hunan University, Changsha; 410082, China); Chen, Zhiqiang; Tian, Yang; Zhang, Nong; Wang, Ming **Source:** *Nongye Jixie Xuebao/Transactions of the Chinese Society for Agricultural Machinery*, v 48, n 4, p 349-354, April 25, 2017 **Language:** Chinese
Database: Compendex
 8. **Min-max merged with quadratic cost for repetitive control of non-minimum phase systems**
 Prasitmeebon, Pitcha (Department of Electrical Engineering, Columbia University, 500 West 120th Street, New York; NY; 10027, United States); Longman, Richard W. **Source:** *Advances in the Astronautical Sciences*, v 160, p 3065-3085, 2017, *Spaceflight Mechanics 2017*
Database: Compendex
 9. **Rotor Design for High-Speed High-Power Permanent-Magnet Synchronous Machines**
 Fang, Haiyang (State Key Laboratory of Advanced Electromagnetic Engineering and Technology, School of Electrical and Electronic Engineering, Huazhong University of Science and Technology, Wuhan; 430074, China); Qu, Ronghai; Li, Jian; Zheng, Pei; Fan, Xinggang **Source:** *IEEE Transactions on Industry Applications*, v 53, n 4, p 3411-3419, July-August 2017
Database: Compendex
 10. **Efficient Outlier Detection for High-Dimensional Data**
 Liu, Huawen (Department of Computer Science, Zhejiang Normal University, Jinhua 321004, China.(e-mail: hwliu@zjnu.edu.cn)); Li, Xuelong; Li, Jiuyong; Zhang, Shichao **Source:** *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, July 7, 2017
 Article in Press
Database: Compendex
 11. **Safe, Efficient, and Robust SDN Updates by Combining Rule Replacements and Additions**
 Vissicchio, Stefano (F.R.S.-FNRS, Université catholique de Louvain, 1348 Louvain-la-Neuve, Belgium. He is now with University College London, London WC1E 6BT, U.K..(e-mail: s.vissicchio@cs.ucl.ac.uk)); Cittadini, Luca **Source:** *IEEE/ACM Transactions on Networking*, July 14, 2017
 Article in Press

Database: Compendex

12. **Angular speed estimation and fault diagnosis based on an adaptive high-order sliding-mode observer**
Wang, Bin (Technical Center, SAIC Motor, Shanghai; 201804, China); Li, Yan; Chen, Jingjie; Zhang, Chenchen **Source:** *Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering*, v 231, n 5, p 573-584, April 1, 2017
Database: Compendex
13. **Human Motion Segmentation via Robust Kernel Sparse Subspace Clustering**
Xia, Guiyu (School of Computer Science and Engineering, Nanjing University of Science and Technology, Nanjing 210094, China.); Sun, Huaijiang; Feng, Lei; Zhang, Guoqing; Liu, Yazhou **Source:** *IEEE Transactions on Image Processing*, August 10, 2017
Article in Press
Database: Compendex
14. **A new iterative approach for multi-objective fault detection observer design and its application to a hypersonic vehicle**
Huang, Di (State Key Laboratory for Turbulence and Complex Systems, Department of Mechanics and Engineering Science, College of Engineering, Peking University, Beijing, P.R. China); Duan, Zhisheng **Source:** *International Journal of Control*, p 1-17, February 1, 2017
Article in Press
Database: Compendex
15. **Multivariable optimal robust control strategy for MMC converter**
Ayari, Mohamed (LSA, Ecole Polytechnique de Tunisie, BP. 743, La Marsa, Tunisia); Belhaouane, Mohamed Moez; Guillaud, Xavier; Benhadj Braiek, Naceur **Source:** *Proceedings of International Conference on Advanced Systems and Electric Technologies, IC_ASET 2017*, p 210-215, July 18, 2017, *Proceedings of International Conference on Advanced Systems and Electric Technologies, IC_ASET 2017*
Database: Compendex
16. **Robust Self-Calibrating nCPMG Acquisition: Application to Body Diffusion-Weighted Imaging**
Gibbons, Eric K. (Departments of Bioengineering and Electrical Engineering at Stanford University, Stanford, California 94305 USA.); Roux, Patrick Le; Vasanawala, Shreyas S.; Pauly, John M.; Kerr, Adam B. **Source:** *IEEE Transactions on Medical Imaging*, August 17, 2017
Article in Press
Database: Compendex
17. **Novel packaging approaches for increased robustness and overall performance of gimbal-less MEMS mirrors**
Milanović, Veljko (Mirrorcle Technologies, Inc., Richmond; CA, United States); Kasturi, Abhishek; Yang, James; Su, Yu Roger; Hu, Frank **Source:** *Proceedings of SPIE - The International Society for Optical Engineering*, v 10116, 2017, *MOEMS and Miniaturized Systems XVI*
Database: Compendex
18. **Probabilistic and Distributed Control of a Large-Scale Swarm of Autonomous Agents**
Bandyopadhyay, Saptarshi (Jet Propulsion Laboratory, California Institute of Technology, Pasadena; CA; 91109, United States); Chung, Soon-Jo; Hadaegh, Fred Y. **Source:** *IEEE Transactions on Robotics*, v 33, n 5, p 1103-1123, October 2017
Database: Compendex
19. **Trajectory Tracking Control of Underwater Vehicle-Manipulator System Using Discrete Time Delay Estimation**
Wang, Yaoyao (College of Mechanical and Electrical Engineering, Nanjing University of Aeronautics and Astronautics, Nanjing; 210016, China); Jiang, Surong; Chen, Bai; Wu, Hongtao **Source:** *IEEE Access*, v 5, p 7435-7443, 2017
Database: Compendex
20. **A Model Predictive Control Strategy of Pump-Controlled Asymmetric Cylinders Using State Estimation**
Xiong, Zhilin (School of Mechanical Engineering, Shanghai Jiaotong University, Shanghai; 200240, China); Tao, Jianfeng; Zhang, Fengrong; Liu, Chengliang **Source:** *Hsi-An Chiao Tung Ta Hsueh/Journal of Xi'an Jiaotong University*, v 51, n 4, p 109-115, April 10, 2017 **Language:** Chinese
Database: Compendex
21. **Robust linear regression: A review and comparison**
Yu, Chun (School of Statistics, Jiangxi University of Finance and Economics, Nanchang, China); Yao,

- Weixin **Source:** *Communications in Statistics: Simulation and Computation*, v 46, n 8, p 6261-6282, September 14, 2017
Database: Compendex
22. **Robust output voltage control of multimode non-inverting DC-DC converter**
Aharon, Ilan (Department of Physical Electronics, School of Electrical Engineering, Tel Aviv University, Tel Aviv, Israel); Shmilovitz, Doron; Kuperman, Alon **Source:** *International Journal of Control*, v 90, n 1, p 110-120, January 2, 2017
Database: Compendex
23. **Nonlinear dynamic analysis and robust controller design for Francis hydraulic turbine regulating system with a straight-tube surge tank**
Liang, Ji (School of Hydropower and Information Engineering, Huazhong University of Science and Technology, Wuhan; 430074, China); Yuan, Xiaohui; Yuan, Yanbin; Chen, Zhihuan; Li, Yuanzheng **Source:** *Mechanical Systems and Signal Processing*, v 85, p 927-946, February 15, 2017
Database: Compendex
24. **An observer-based control scheme using negative-imaginary theory**
Bhowmick, Parijat (Indian Institute of Technology Kharagpur, Kharagpur; 721302, India); Patra, Sourav **Source:** *Automatica*, v 81, p 196-202, July 1, 2017
Database: Compendex
25. **Real Time & Power Efficient Adaptive - Robust Control**
Gliga, Lavinus Ioan; Mihai, Cosmin Constantin; Lupu, Ciprian; Popescu, Dumitru **Source:** *Journal of Physics: Conference Series*, v 783, n 1, January 19, 2017, *13th European Workshop on Advanced Control and Diagnosis, ACD 2016*
Database: Compendex
26. **Combining Improved Gray-Level Co-Occurrence Matrix with High Density Grid for Myoelectric Control Robustness to Electrode Shift**
He, Jiayuan (State Key Laboratory of Mechanical System and Vibration, Shanghai Jiao Tong University, Shanghai; 200240, China); Zhu, Xiangyang **Source:** *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, v 25, n 9, p 1539-1548, September 2017
Database: Compendex

◇ 权重分配 (weights allocation) ⁶

通过检索 EI 数据库, 2016 年以来权重分配在基于模型的航天系统工程及综合评估研究方向涉及 3 篇最新的研究论文:

1. **On systematic uncertainties in UTC**
Matsakis, Demetrios (US Naval Observatory, Washington; DC, United States) **Source:** *2016 IEEE International Frequency Control Symposium, IFCS 2016 - Proceedings*, August 16, 2016, *2016 IEEE International Frequency Control Symposium, IFCS 2016 - Proceedings*
Database: Compendex
2. **Comment on 'A low-uncertainty measurement of the Boltzmann constant'**
Macnaughton, Donald B. (MatStat, 30 Greenfield Ave., Toronto; ON, Canada) **Source:** *Metrologia*, v 53, n 1, p 108-115, January 27, 2016
Database: Compendex
3. **The NIST Simple Guide for Evaluating and Expressing Measurement Uncertainty**
Possolo, Antonio (Statistical Engineering Division, Information Technology Laboratory, National Institute of Standards and Technology, U.S. Department of Commerce, Gaithersburg; MD, United States) **Source:** *Journal of Physics: Conference Series*, v 772, n 1, December 12, 2016, *2016 Joint IMEKO TC1-TC7-TC13 Symposium: Metrology Across the Sciences: Wishful Thinking?*

⁶EI 数据库检索策略: (((((((({MODEL ANALYSIS}) WN KY) OR ((({MODEL APPLICATION}) WN KY)) OR (({MODEL}) WN KY)) OR ((({MODEL SIMULATION}) WN All fields)) AND ((({WEIGHTS AND MEASURES}) WN KY))) AND ((2016 OR 2017) WN YR)

Database: Compendex

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