

S-ID	I/C	S-No.	No.	Session title	Session organizer	Chair	Authors	Pager title
1A1	I	11	I-11	Inequalities for Order Statistics and System Lifetimes	Tomasz Rychlik	Tomasz Rychlik	Agneszka Goroncy and Tomasz Rychlik Mariusz Bieniek Patrik Mizífa	Bounds on the Expected Differences of Consecutive Order Statistics Based on the Increasing Failure Rate Samples Optimal Bounds on Total Time on Test for Distributions with Decreasing Density or Failure Rate Moment Comparison of Ordered Mixtures, with Applications in Reliability Theory
1B1	I	16	I-18	Modeling and Analysis of Degradation Data	William Q. Meeker	William Q. Meeker	Houda Ghannouchi, Mitra Fouldrad, and Antoine Grall Chien-Yu Peng and Hsueh-Fang Ai Yili Hong and Jie Li	Residual Lifetime Estimation and Stochastic Volatility: A Case Study A Study of Degradation Data with Measurement Errors Spatio-temporal Modeling of Degradation Data Collected Over a Spatial Region
1C1	I	29	I-29	Software System Reliability I	Tadashi Dohi	Tadashi Dohi	Hiroyuki Okamura and Tadashi Dohi Yasuhiro Sato and Tadashi Dohi Xiao Xiao	A Note on Variational Bayes Approach for Software Reliability Growth Model with Normal Distribution Nonparametric Maximum Likelihood Estimator with Software Fault Count Data Hair Wavelet Regression Model for NHPD-based Software Reliability Assessment
1D1	I	24	I-24	Prognostic and Health Management (PHM)	Ming J. Zuo and Zhiliang Liu	Zhiliang Liu	Yaguo Lei, Naipeng Li, and Jing Lin Xiaowang Chen, Zhipeng Feng, and Ming Liang Zhiliang Liu, Siyu Lei, Ming J. Zuo, Yong Qin, and Xinglin Li	Remaining Useful Life Prediction of Rolling Element Bearings Based on the Exponential Model Combination with Particle Filtering Application of Synchro-squeezing Transform to Planetary Gearbox Fault Diagnosis Under Nonstationary Conditions Feature Ranking Based on Multi-metric Fusion for Bearing Fault Diagnosis
1E1	I	13	I-13	Maintenance Modeling I	Min Xie	Min Xie	Laurent Doyen, Olivier Gaudoin, and Syamsundar Annamraju Bin Liu, Ruy-Huei Yeh, and Way Kuo Mitra Fouldrad, Christian Péroissin, and Antoine Grall	On Geometric Reduction of Age or Intensity Models for Imperfect Maintenance Inspection Scheduling for Multi-component Systems with Hidden Failures Sensitivity Analysis for the Block Replacement Policy
1F1	I	17	I-17	Multi-state and Continuous-state System Reliability I	Anatoly Lisnianski and Gregory Levitin	Anatoly Lisnianski	Yan-Hui Lin, Yan-Fu Li, and Enrico Zio Shey-Huei Sheu, Chin-Chih Chang, and Zhe George Zhang Anatoly Lisnianski and Ila Frenkel	Reliability Analysis of Systems with Multiple Dependent Competing Degradation Processes Optimal Imperfect Preventive Maintenance Policy for a Multi-state System with Minimal Repair and Effective Age On Sensitivity Analysis for Multi-state System by Using LZ-transform
1G1	I	1	I-1	Advanced Maintenance Strategy	Yisha Xiang and Nan Chen	Yisha Xiang	Nan Chen, Zhisheng Ye, Yisha Xiang, and Linmao Zhang Jan Breddich, Yisha Xiang, Tongdan Jin, and Edward Pohl Chao Fang	Condition-based Maintenance Using the Inverse Gaussian Degradation Model Joint Planning for Preventive Maintenance and Multi-echelon Stocking Risk Clustering and Importance Ranking in Engineering Projects
2A1	C	II-1	C-II-1	Statistical Inference	Uwe Jensen	Uwe Jensen	Beiqing Gu, Xiaoling Xu, and Ronghua Wang Maurizio Galda, Fabio Postiglione, and Gianpaolo Putini Uwe Jensen, Hong Chen, Mark Döring, Sebastian Bobrowski, and Wolfgang Schirinkthe	Statistical Analysis of Geometric Distribution for Masked Data A Bayesian Estimation Procedure for the Non-homogeneous Gamma Process Reliability Prediction Using Regression Models
2A2	C	I-11	C-I-11	Stochastic Ageing	Carmen Sanguesa	Carmen Sanguesa	F. German Badia and Carmen Sanguesa Antonio Gómez-Arriaza, Félix Belzunce, Julio Mulero, and Alfonso Suárez-Llorens Hai Ha Pham and Sophie Mercier	Negative Ageing Properties for Counting Processes Arising in Virtual Age Models On a New Definition of the Multivariate IFR Notion based on the Standard Construction A Bivariate Failure Time Model, with Dependence due to Shocks and Mixed Effect
2A3	I	40	I-40	Memorial Session in Honor of Moshe Shaked	Hajjun Li and Marco Scarsini	Hajjun Li	Nozer Singpurwalla Marco Scarsini Alfred Müller	Moshe Shaked's Excess Wealth: A Pathway to Prosperity Moshe Shaked and Game Theory Between First and Second-order Stochastic Dominance
2A4	I	34	I-34	Stochastic Dependence in Reliability	Maochao Xu	Maochao Xu	Maochao Xu, Gaofeng Da, and Shouhui Xu Franco Pellerrey, Saeed Zalzadeh, Felix Belzunce, and Carolina Martinez-Riquelme	Cyber Epidemic Models with Dependencies Standard Stochastic Orders and Joint Stochastic Orders: Conditions on Survival Copulas for Mutual Relationships Comparisons of Residual Lifetimes of Coherent Systems Under Dependence
2B1	C	II-2	C-II-2	Lifetime Data Analysis			Eric Boubiner, Laurent Bordes, and Laurent Doyen Bin Yan Jiang Félix Belzunce, Carolina Martínez-Riquelme, Franco Pellerrey, and Saeed Zalzadeh	Failure of the Profile Likelihood Method for Semi-parametric Virtual Age Models A Two-fold Mixed Power-law Model with a Time-varying Mixture Proportion for Modeling Failure Intensity Comparison of Residual Lives for Dependent Random Variables
2B2	C	II-4	C-II-4	Order Statistics/Statistical Quality Control	Félix Belzunce	Félix Belzunce	Félix Belzunce, Carolina Martínez-Riquelme, and José M. Ruiz Pawel Marcin Kozyra and Tomasz Rychlik Chien-Wei Wu, Shih-Wen Liu, Kuo-Hao Chang, and Chao-Lung Yang	Stochastic Comparisons of Relative Spacings with Applications in Reliability Optimal Evaluations of Expected L-statistics Gauged in the Gini Mean Difference Units Designing a New Two-plan Sampling System by Variables with Switching Rules
2B3	I	6	I-6	Bayesian Methods for Complex System Reliability	Alyson G. Wilson	Alyson G. Wilson	C. Shane Reese Kassandra M. Fronczyk, Rebecca M. Dickinson, Alyson G. Wilson, Caleb S. Browning, and Laura J. Freeman Caleb S. Browning, Laura J. Freeman, Alyson G. Wilson, Rebecca M. Dickinson, and Kassandra M. Fronczyk	A Hierarchical Model for the Reliability of Complex Multi-component Systems Bayesian Hierarchical Models for Common Components Across Multiple System Configurations Estimating System Reliability from Heterogeneous Data
2B4	I	7	I-7	Bayesian Reliability Inference and Warranty Predictions	Sheng-Tsai Tseng	Sheng-Tsai Tseng	Tsai-Hung Fan and Chian-Hui Chen Yincai Tang and Pingping Wang Shun-Lin Jeng	A Bayesian Reliability Analysis Under Gamma Step-stress Accelerated Degradation Process Bayesian Inference for Degradation Data with One Change Point Failure Predictions for the Warranty Analysis Utilizing the Historical Data of Similar Products
2C1	C	I-2	C-I-2	k-out-of-n Systems			Sheng-Tsai Tseng and Nan-Jung Hsu Huan Yu, Jun Yang, and Yu Zhao Changhe Kan	Combined Inference of Laboratory and Field Data with Application to Warranty Prediction for Highly-reliable Products Circular Multi-state Consecutively-connected Systems with Dual Constraints of m Consecutive Gaps and n Total Gaps A Note on Circular m-consecutive-k-out-of-m:F Systems
2C2	C	II-3	C-II-3	System Reliability			Taishin Nakamura, Tomoaki Akiba, Xiao Xiao, and Hisashi Yamamoto Wenjun Gong and Yunxia Chen Ceki Franko and Famin Yalcin	A Study on Closed Formulae for Connected-(r, s)-out-of-(m, n) F Lattice System Reliability of Multi-state Systems Considering Conditional Cascading Failure Mechanism Signatures of Some Systems Consisting of Non-Disjoint Modules
2C3	I	36	I-36	System Reliability and Life Testing	Bo Henry Lindqvist	Bo Henry Lindqvist	Ionescu Dorina Romina, Nicolae Brinzei, and Jean-François Petin Francisco J. Samaniego and Jorge Navarro Jorge Navarro and Francisco J. Samaniego Jan Terje Kvaløy, Bo Henry Lindqvist, and Stein Aaserud	Modular Approach for Dependability and Reliability Assessment of Complex Systems On Comparing Systems with Heterogeneous Components via Survival Signatures Comparing Systems by Distortion Functions Residuals and Functional Form in Accelerated Life Regression Models
2C4	I	21	I-21	New Approaches in Reliability Estimation and Diagnostic Testing	Bo Henry Lindqvist	Bo Henry Lindqvist	Paul Kvam and Jye-Chyi Lu Ananda Sen and Anupap Somboonsawatdee Vaclav Simacek and Bo Henry Lindqvist	An Extended Skill Test for Disease Diagnosis Based on the Receiver Operator Characteristic Recurrent Events Under Dependent Competing Risks and Missing Cause of Failure Non-homogeneous Poisson Process with Nonparametric Frailty and Covariates
2D1	C	I-6	C-I-6	Decision Making in Reliability			Kevin Wilson and John Quigley Qingqing Zhai, Jun Yang, Rui Peng, and Yu Zhao Ginggang Wang, Jun Jiang, and Bo Guo	Sequencing Reliability Growth Tasks Using Multiattribute Utility Functions Reliability Evaluation of Warm Standby Systems Based on Multivalued Decision Diagram - An Automatic Approach Involvement of Dependence Uncertainties in Fault Tree Analysis Using Hybrid Approach
2D2	C	I-10	C-I-10	Maintenance/Repair Models	Hennie Husainah	Hennie Husainah	Hennie Husainah, Uliqanna S. Pasaribu, Anji Caluvornita, and Bernawi P. Iskandar Richard Arnold, Stafanka Chukova, and Yu Hayakawa Yves Langeron, Mitra Fouldrad, and Antoine Grall	Maintenance Contract with Dynamic Operating Conditions Warranty Cost Analysis: Increasing Warranty Repair Times Controlled Systems, Failure Prediction and Maintenance
2D3	I	20	I-20	Network Reliability Analysis	Ming J. Zuo	Ming J. Zuo	Ding-Hsiang Huang and Yi-Kuei Lin Wei-Chang Yeh, Yi-Yun Chang, and Chyh-Ming Lai Guanghan Bai, Zhigang Tian, and Ming J. Zuo	Demand Satisfaction of a Hybrid Flow-shop with Completion Time Consideration A Simple Path-based Algorithm for Evaluating the Reliability of a Deteriorated Multi-state Flow Network An Improved Algorithm for Searching for Minimal Paths in Two-terminal Networks
2D4	I	22	I-22	Online Monitoring	Kazuyuki Suzuki	Kazuyuki Suzuki	Yili Hong Wataku Yamamoto Lu Jin and R. P. D. J. Rajapaksha	Using Degradation Data with Dynamic Covariates to Do Online Monitoring Time Scales for Online Monitoring Data Optimal Decision Policy for Deteriorating Systems with On-line Monitoring in a Varying Environment Under Selectable Operations
2E1	C	I-1	C-I-1	Stochastic Processes in Reliability			Zeina Al Masry, Sophie Mercier, and Ghislain Verdier Mario Hellmich	Simulation Techniques and Approximated Distribution of an Extended Gamma Process Generalized Markov Processes for Systems with Periodic Surveillance Testing and Monte Carlo Simulation Modeling Aggregate Fleet Renewals with Uncertain System Installation Times
2E2	C	I-8	C-I-8	Maintenance Models	Christophe Berenguer	Christophe Berenguer	Fai Sun, Tongdan Jin, and Yi Ding Zhipun Cheng, Yiming Qiao, and Bo Guo Hirosaki Shida, Hironori Ogushi, Yoshihiko Higami, Hirohisa Aman, and Hiroshi Takahashi	Perfect Maintenance Model of Pavement Based on Markov Decision Process A Proposal of Maintenance Cost Model of Track Circuits A Design Approach for MFDOP-based Maintenance Policy of Multi-component Systems
2E3	I	27	I-27	Sensitivity Analysis of Reliability Systems I	Vladimir Rykov	Vladimir Rykov	Boyan Dimitrov and Sahib Easa Vladimir Rykov and Victor Itkin Dmitry Efrosinin, Janos Sztrik, and Mais Farkhadov	On the Local Dependence Structure in Politics and in Reliability Distributions On Sensitivity of Reliability Systems Operating in Random Environment to Shape of Their Input Distributions Reliability and Sensitivity Analysis of an Aging Unit with a Hysteresis Policy for the Repair Facility Activation
2E4	I	28	I-28	Sensitivity Analysis of Reliability Systems II	Vladimir Rykov	Dmitry Efrosinin	Mikhail Sukharev Oleg Abramov and Dmitry Nazarov Igor Gurevich and Mais Farkhadov	Reliability Indices Estimation of Pipeline Networks Application of Regions of Acceptability for Sensitivity Analysis Investigation Characteristics and Properties of Queuing Networks to Provide Their Sustainability
2F1	C	II-3	C-II-3	Accelerated? Life Testing			Xiaoling Xu, Ronghua Wang, and Beiqing Gu Yi-Chao Yin, Chengong Huang, Yuan-Jian Yang, Yu Liu, and Hong-Zhong Huang Guo-Zhong Fu, Hong-Zhong Huang, Yan-Feng Li, Yuan-Jian Yang, and Yi-Chao Yin	Statistical Analysis of Type-I Censored Masked Data for Series System Under Process-Stress Accelerated Life Test A Life Prediction Method for High-speed Impellers via Accelerated Life Tests A Service Life Estimation Method for Offshore Electronic Control Module Based on Salt Spray Test
2F2	C	I-9	C-I-9	Repair Models			Nicolas Bousquet and Franck Corset Franck Corset and Yann Djoux Ran Yan Jiang	Exploring the Consistency of Maximum Likelihood Estimator of Imperfect Repair ARA, I Models Computed from a Single Trajectory A Better "Time-to-Repair" Model An Approximation to Mean Time to the Next Failure for Repairable Systems
2F3	I	18	I-18	Multi-state and Continuous-state System Reliability II	Anatoly Lisnianski and Gregory Levitin	Gregory Levitin	Gregory Levitin and Liudong Xing Ping-Chen Chang, Lance Fiorello, and Yi-Kuei Lin Fumio Oh	State-space Event Transition Method for Evaluating Mission Reliability, Time and Cost Confidence-based Reliability Modeling of a Stochastic-flow Production System Stochastic Evaluation Methods of Multi-state Systems via Modular Decompositions - A Case of Partially Ordered States -
2F4	I	19	I-19	Multi-state and Continuous-state System Reliability III	Anatoly Lisnianski and Gregory Levitin	L. Khvatskin	Chaonan Wang, Liudong Xing, and Rui Peng Mu-Xia Sun, Yan-Fu Li, and Enrico Zio Tian Zhang, Rui Peng, Wenbin Wang, Qingqing Zhai, and Yi Ding	Competing Failure Analysis in Phased-mission Systems via Global and Selective Propagation Effects A Dynamic Programming Algorithm for Multi-state Series Parallel System Availability Evaluation Optimal Inspection and Maintenance of Systems Subject to Two Types of Failures
2G1	C	I-5	C-I-5	Optimization			Lev Khvatskin, Ila Frenkel, and Anatoly Lisnianski Hailong Jing, Yunxia Chen, and Rui Kang Wei-Chun Hung, Pin-Wei Chang, Ruy-Huei Yeh, Hui-Syuan Huang, and Wen Liang Chang	Importance Assessment of Aging Multi-state Water Cooling System by LZ-transform Method Optimization Method for Acceleration Factor Under Multiple Stresses and Failure Mechanisms A Study of Replacement Policy of Second-hand Products Under a Finite Planning Horizon
2G2	C	III-1	C-III-1	Statistical Machine Learning and Its Applications			Hassane Chraïbi, Aurélie Leger, Herve Barthelemy and Coraline Neils Baptiste Gregorutti, Bertrand Michel, and Philippe Saint-Pierre	GASPART: A New Method and Tool for Reliability Assessments of Gated Spillway System Random Forest Permutation Importance and Multivariate Functional Regression
2G3	I	33	I-33	Statistical Innovations in Failure Time Modeling of Complex Systems	Ananda Sen	Ananda Sen	Sargjo Basu William Voltmann Fotios S. Milonios, Narayanaswamy Balakrishnan, and Markos V. Koutras	Competing Risks Limited Failure Models: Identification Issues and Model Fitting Modeling and Analysis of Lifetime Data Using Quantile Function Semi-parametric Inference for Cure Rate Models
2G4	I	2	I-2	Advanced Topics in Importance Measures for System Reliability	Xiaoyan Zhu	Xiaoyan Zhu	Ali Rıza Bozbulut and Serkan Eryılmaz Shubin Si, Ning Wang, and Hongyan Dui Shuai Zhang, Jangbin Zhao, Zhiqiang Cai, Hongguang Li, and Shubin Si	Reliability Importance in Weighted-k-out-of-n Systems Protection for the Effects of the External Factors on System Reliability Reliability Optimization of Cir/Con/k/n System
3A1	I	35	I-35	Stochastic Orders in Reliability Theory	Maochao Xu	Peng Zhao	Peng Zhao Weiyong Ding and Gaofeng Da Weiyong Ding and Xiaoliang Ling	Redundancy Allocation at Component Level Versus System Level Component Level Versus System Level k-out-of-n Assembly Systems On the Skewness of Extreme Order Statistics from Heterogeneous Samples
3A2	I	12	I-12	Lifetime Data Analysis	Mei-Ling Ting Lee	Shu-Hui Chang	A. Adam Ding, Jim-Juan Hsieh, and Weijing Wang Dang-Huang Su, Tsung-Chiang Fu, and Shu-Hui Chang Jianguo Sun	Estimating Covariate Effects on Association for Bivariate Survival Data Through Local Linear Method Nonparametric Association Analysis of Recurrent Gap Time Data with a Terminal Event Regression Analysis of Dependent Current Status Data under the Proportional Hazards Model
3B1	I	8	I-8	Censoring Methodology and Associated Inferential Results	Narayanaswamy Balakrishnan	Ping Shing Chan	William Voltmann Chih Chun Tasi, Chien-Tai Lin, and Narayanaswamy Balakrishnan Hidetaki Nagatsuka and Narayanaswamy Balakrishnan	Pooled Censored Samples: an Overview Optimal Design for Accelerated-stress Acceptance Test Based on Wiener Process On Parameter Estimation for the Generalized Pareto Distribution
3B2	I	9	I-9	Computational Methods in Reliability	Narayanaswamy Balakrishnan	Chien-Tai Lin	Yandan Yang, Hon Keung Tony Ng, and Narayanaswamy Balakrishnan Anna Dembinska Toshiaki Kamakura and Takenori Sakumura	A Stochastic Expectation-Maximization Algorithm for the Analysis of System Lifetime Data with Known Signature Discrete Order Statistics for Non-Identically Distributed Variables with Applications to Reliability Likelihood-based Inference on Weibull Distribution
3C1	I	30	I-30	Software System Reliability II	Tadashi Dohi	Xiao Xiao	Mitsuhiro Kimura, Naomichi Hata, and Takaji Fujiwara Shinji Inoue and Shigeru Yamada Qingpei Hu and Luja Wang	Hidden Markov Analysis for Software Testing Performance Evaluation Based on Two-stage Testing by Two Teams On Multiple Changes of Testing-environment in Software Reliability Assessment Statistical Analysis of Software Reliability Growth Considering Detection and Correction
3C2	I	31	I-31	Software System Reliability III	Tadashi Dohi	Hiroiyuki Okamura	Yoshinobu Tamura and Shigeru Yamada Mamoru Ohara and Satoshi Fukumoto Mitsutaka Kimura, Mitsuhiro Imazumi, and Toshio Nakagawa	Three Dimensional Wiener Processes Model and Optimal Software Maintenance Planning A Note on Rejuvenation in Time Warp-Based Distributed Systems Reliability Modelling of Distributed Communication Processing for a Cloud System with Data Updates

3D1	I	4	I-4	Analysis of Imperfect Reliability and Survival Data I	Hon Keung Tony Ng	Man-Ho Ling	Man Lai Tang and Hon Keung Tony Ng Zhiheng Ye Xingju Zhao, Yuanshan Wu, and Guosheng Yin	Sequential Nonparametric Procedures for Testing the Equality of Two Lifetime Distributions New Estimating Equations for the Gamma Distribution Sieve Maximum Likelihood Estimation for a General Class of Accelerated Hazards Models with Bundled Parameters
3D2	I	5	I-5	Analysis of Imperfect Reliability and Survival Data II	Hon Keung Tony Ng	Hon Keung Tony Ng	Ping Shing Chan, Peng Zhao, and Hon Keung Tony Ng Man-Ho Ling, Hon Yu So, and Narayanaswamy Balakrishnan Feng Su, Xiaojun Zhu, and Narayanaswamy Balakrishnan	Optimal Allocation of Redundancies in Series Systems Analysis for One-shot Device Testing Data with Competing Risks Exact Likelihood Inference for Two Exponential Populations Based on Joint Generalized Type-I Hybrid Censoring
3E1	I	14	I-14	Maintenance Modeling II	Tetsushi Yuge	Tetsushi Yuge	Tomohiro Kitagawa, Tetsushi Yuge, and Shigeru Yanagi Xufeng Zhao, Khalifa N. Al-Khalifa, Won Young Yun, and Toshio Nakagawa Ferenc Szidarovszky, Harry Quo, Akio Matsumoto, and Miklós Szidarovszky	Non-Periodic Inspection and Replacement Policy for a Multi-unit One-shot System with Minimal Repair Optimal Undertime Replacement Policies with Random Working Cycles Age Replacement with Competing Failure Modes
3E2	I	15	I-15	Maintenance Modeling III	Tetsushi Yuge	Mingchih Chen	Kodo Ito and Toshio Nakagawa Mingchih Chen, Cunhua Qian, Xufeng Zhao, and Toshio Nakagawa Satoshi Mizutani and Toshio Nakagawa	A Stochastic Model of Commercial Airframe Maintenance Discrete Replacement Models with Works and Failures Extended Replacement Overtime Policies for Job with a Finite Number of Works
3F1	I	3	I-3	Aging and Maintenance in Technical and Biological Systems	Maxim Finkelstein	Maxim Finkelstein	Maxim Finkelstein and Bys Gertsbakh Mahmoud Shafiq, Maxim Finkelstein, and Christophe Berenguer Trifon I. Mishev and James W. Vasgal	Preventive Maintenance of Systems Described by Signatures On Stochastic Modelling of Maintenance for Continuously Monitored Systems Subject to Multiple Deterioration and External Shocks Fixed-frailty Modeling Implications of Mortality Plateaus
3F2	C	I-7(5)	D-1-7(5)	Decision Making in Reliability		Cheng-Ta Yeh (#1) Nasser Hassan Aboasq (#2)	Zongke Ho, Zhengrong Shen, and Debin Cheng Cheng-Ta Yeh Francisco Germán Badía and Carmen Sangüesa Yunyan Xing and Ping Jiang Nasser Aboasq and Krishnan Subramaniam	Design of Reliability Testing Plans for a Condensed System Based on Equal Acceptance Probability Reliability Evaluation for a Multi-source Multi-sink Logistics Network with Stochastic Capacity Inventory Models with Stochastic Lead Times and Queueing Systems: Applications of Shape Properties of Randomly Stopped Counting Process A Sequential Testing Method for Binomial Products in Varying Population Development
3G1	I	38	I-38	Theory and Methods for System Reliability	Lirong Cui	Lirong Cui	Hongyan Dui and Lirong Chen Xujie Jia, Aoxue Su, Shangwei Zhao, and Zhongping Li Zhiqiang Cai, Yang Li, Shubin Si, and Lili Zhang Lirong Cui, Yan Li, and Jingyuan Shen	Integrated Importance Measure of System Survivability in Multi-state Protection Systems Reliability Analysis of the Life Dependent Safety-critical System with Three-states Based on Copula Reliability Analysis of a Three Node WSN Model On Some Problems for Aggregated Stochastic Processes in Reliability
3G2	C	I-4(6)	D-1-4(6)	System Reliability		Annamraju Syamsundar (#1)	Ronghua Wang, Xiaoling Xu, and Beiqing Gu Syamsundar Annamraju Wei-Chang Yeh, Hsueh-Sheng Wu, and Chyh-Ming Lai S. B. Singh and Khushal Singh Bohra Zhiqiang Zeng, Qinyuan Zhang, Yunxia Chen, and Rui Kang Konul Bayramoğlu	Depiction of Exponential Distribution by Using Order Statistics Assessing Reliability of Large and Complex Industrial Repairable Systems Using Multi-Level Modelling and Big Data A Novel 2D Binary-state Angle Network and its Reliability Evaluation Evaluating Fuzzy System Reliability Using Intuitionistic Fuzzy Exponential Lifetime Distribution Reliability Box as a Tool for Reliability Analysis in Presence of Epistemic Uncertainty On Reliability and MRL Functions of Coherent Systems with Active Redundancy
4A1	I	39	I-39	Warranty Data Analysis	Stefanka Chukova and Yu Hayakawa	Yu Hayakawa	Bharatendra Rai Xin Wang and Zhiheng Ye Stefanka Chukova and Yu Hayakawa	Warranty Spend Prediction for Failures Influenced by Seasonality Warranty Data Analysis Concerning Report Behaviour of Customers Auto Warranty Data: Estimation of the Mean Cumulative Function
4B1	I	37	I-37	Structural Reliability and Aging Properties of Reliability Systems	Markos V. Koutras	Markos V. Koutras	Serkan Eryilmaz Fotios S. Milienos, Narayanaswamy Balakrishnan, and Markos V. Koutras Markos V. Koutras, Narayanaswamy Balakrishnan, and Fotios S. Milienos	Some Results on Aging Properties and Stochastic Orders of Multi-state Systems On the Start-up Demonstration Test Theory Mixed Start-up Demonstration Tests
4C1	I	32	I-32	Software System Reliability IV	Tadashi Dohi	Mitsuhiro Kimura	Mitsuhiko Imazumi and Mitsutaka Kimura Syuji Nakamura, Xufeng Zhao, and Toshio Nakagawa Shunsuke Tokumoto and Tadashi Dohi	Optimal Management Policy for a Control System Considering Security Optimal Sever Number of m-out-of-n System with n Servers for m Jobs Interval Estimation of Optimal Software Rejuvenation Policy
4D1	I	10	I-10	Deterioration Models	Sophie Mercier	Sophie Mercier	Ji Hean Cho, Inmaculada T. Castro, and Carmen Sangüesa Christian Parisien Sophie Mercier, Anne Barros, and Antoine Grall	Assessment of a Condition-based Maintenance Strategy for a System Subject to Degradation Failures and Catastrophic Failures Sharing an Initial Common Source Inference for the Wiener Process with Random Inflation Time A Multivariate Degradation Model with Dependence Due to Shocks
4E1	I	25	I-25	Determining Reliability in Complex Engineered Systems	Tim Bedford	Tim Bedford	Tim Bedford, Athena Zitrou, Lesley Walls, Kevin Wilson, and Keith Bell Takeshi Matsuoka	Managing Systemic Reliability Challenges for Offshore Windfarms An Exact Method for Solving Loop Structured System in Reliability Analysis
4F1	I	26	I-26	Repairable Systems	Paul Kvam and Vasily Krivtsov	Paul Kvam	Vasily Krivtsov, Michael Frankstein, and Alex Yevkin Bo Henry Lindqvist and Zeytu Gashaw Asfaw Edsel A. Pella and Piaomu Liu	Recurrent Repair Analysis of Sibling Components Extending Minimal Repair Models for Repairable Systems: A Comparison of Dynamic and Heterogeneous Extensions of a Nonhomogeneous Poisson Process Joint Dynamic Modeling of Recurrent Competing Risks and a Terminal Event
4G1	I	23	I-23	Optimization Methods in Systems Reliability Theory	Hisashi Yamamoto and Won Young Yun	Won Young Yun	Won Young Yun, Young Jin Han, and Won Seok Jeon Tomooki Akiba, Natsumi Takahashi, and Hisashi Yamamoto Xiao Xiao, Natsumi Takahashi, Yi Chen, and Hisashi Yamamoto	Preventive Maintenance Intervals for a Multi-unit System Reliability of 3-Dimensional Consecutive-k System Reconsideration of Network Types - the cases of $e=m+1$, $e=m+2$ and $e=m+3$ -