

S-ID	I/C	S-No	No	Session title	Session organizer	Chair	Authors	Paper title
1A1	I	11	I-11	Inequalities for order statistics and system lifetimes	Tomasz Rychlik	Tomasz Rychlik	Agnieszka Goroncy Mariusz Bieniek Petryk Miziula	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-16	Modeling and Analysis of Degradation Data	William Q. Meeker	William Q. Meeker	Houda Ghamlouch, Mitra Fouladirad, 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 Saito 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 Haar Wavelet Regression Model for NHPP-based Software Reliability Assessment
1D1	I	24	I-24	Prognostic and health management (PHM)	Ming-Jian Zuo & Zhiliang Liu	Zhiliang Liu	Yaguo Lei, Naipeng Li, and Jing Lin Zhipeng Feng Zhiliang Liu	Remaining Useful Life Prediction of Rolling Element Bearings Based on the Exponential Model Combination with Particle Filtering Application of Synchrosqueezing 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, Ruey Hwei Yeh, and Way Kuo Mitra Fouladirad, Christian Paroissin, 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 Ilya 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		Chen Nan, Zhisheng Ye, Yisha Xiang, and Linmiao Zhang Jan Bredlich, 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			Beiqing Gu, Xiaoling Xu and Ronghua Wang Maurizio Guida, Fabio Postiglione and Gianpaolo Pulcini Uwe Jensen	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			F. German Badía 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, LUIS Guido Carli Alfred Muller	Moshe's "Excess Wealth": A Stepping Stone 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 Franco Pellerey Jorge Navarro	Cyber Epidemic Models with Dependence Standard Stochastic Orders and Joint Stochastic Orders: Conditions on Survival Copulas for Mutual Relationships Comparisons of Residual Lifetimes of Used Systems
2B1	C	II-2	C-II-2	Lifetime data analysis			Eric Beutner, Laurent Bordes and Laurent Doyen Ren Yan Jiang Carolina Martínez-Riquelme, Felix Belzunce, Franco Pellerey and Saeed Zalazadeh	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			Felix Belzunce, Carolina Martínez-Riquelme and Jose M. Ruiz. Tomasz Rychlik and Pawel Kozyra 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	Shane Reese Kassandra Fronczyk, Rebecca Dickinson, Alyson Wilson, Caleb Browning, and Laura Freeman Caleb Browning, Laura Freeman, Alyson Wilson, Rebecca Dickinson, and Kassandra 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-Tsaing Tseng	Sheng-Tsaing Tseng	Tsai-Hung Fan and Chien-Hui Chen Yincal Tang and Pingping Wang Shun-Lin Jeng Sheng-Tsaing Tseng and Nan-Jung Hsu	A Bayesian Reliability Analysis under Gamma Step-stress ADT Bayesian Inference for Degradation Data with one Change Point Failure Predictions for the Warranty Analysis Utilizing the Historical Data of Similar Products Combined Inference of Laboratory and Field Data with Application to Warranty Prediction for Highly-Reliable Products
2C1	C	I-2	C-I-2	k-out-of-n systems			Huan Yu and Jun Yang Changir Kan Taishin Nakamura, Tomoaki Akiba, Xiao Xiao and Hisashi Yamamoto	Circular Multi-state Consecutively-connected Systems with Dual Constraints of m Consecutive Gaps and n Total Gaps A Note on Circular m-consecutive-k, l-out-of-n: F Systems A Study on Closed Formulae for Connected-(r, s)-out-of-(m, n): F Lattice System
2C2	C	II-3	C-II-3	System Reliability			Wenjun Gong and Yunxia Chen Ceki Franko and Famin Yalcin Ionescu Dorina Romina, Nicolae Brinzei and Jean-François Petin	Reliability of Multi-state Systems Considering Conditional Cascading Failure Mechanism Signatures of Some Systems Consisting of Non-Disjoint Modules Modular Approach for Dependability and Reliability Assessment of Complex Systems
2C3	I	36	I-36	System reliability and life testing	Bo Henry Lindqvist	Bo Henry Lindqvist	Francisco J. Samaniego and Jorge Navarro Jorge Navarro and Francisco J. Samaniego Jan Terje Kvaloy, Bo H. Lindqvist and Stein Aaserud Paul Kvam and Jye-Chyi Lu	On Compartment Systems with Heterogeneous Components via Survival Signatures Comparing Systems by Distortion Functions Residuals and Functional Form in Accelerated Life Regression Models An Extended Skill Test for Disease Diagnosis Based on the Receiver Operator Characteristic
2C4	I	21	I-21	New Approaches in Reliability Estimation and Diagnostic Testing	Bo Henry Lindqvist	Bo Henry Lindqvist	Ananda Sen and Anupap Sombonsavatdee Vaclav Simacek and Bo H. Lindqvist	Recurrent Events Under Dependent Competing Risks and Missing Cause of Failure Non-homogeneous Poisson Process with Nonparametric Frailty and Covariates Sequencing Reliability Growth Tasks using Multiattribute Utility Functions
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 Dong Wang, Ping Jiang and Bo Guo	Reliability Evaluation of Warm Standby Systems Based on Multivalued Decision Diagram - An Automatic Approach Involvement of Dependency Uncertainties in Fault Tree Analysis Using Hybrid Approach
2D2	C	I-10	C-I-10	Maintenance/Repair models			Bermawi P. Iskandar, Hennie Husniah, Udjianna S. Pasaribu and Andi Cakravastia Richard Arnold, Stefanka Chukova and Yu Hayakawa Yves Langeron, Mitra Fouladirad and Antoine Grall	Maintenance Contract with Dynamic Operating Condition Warranty Cost Analysis: Increasing Warranty Repair Times Controlled Systems, Failure Prediction and Maintenance
2D3	I	20	I-20	Network Reliability Analysis	Ming-Jian Zuo	Ming Zuo	Ding Hsiang Huang and Yikuei Lin Weichang 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 Watalu Yamamoto Jin Lu 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 Fei Sun, Tongdan Jin and Yi Ding.	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			Zhijun Cheng, Yanning Qiao and Bo Guo Hiroshi Shida, Hirofumi Oogushi, Yoshinobu Higami, Hirohisa Aman and Hiroshi Takahashi Romain Lesobre, Keomany Bouvard, Christophe Berenguer, Vincent Coquemont and Anne Barros	Imperfect Maintenance Model of Pavement Based on Markov Decision Process A Proposal of Maintenance Cost Model of Track Circuits A Design Approach for MFOP-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 Esa Vladimir Rykov and Victor Itkin Dmitry Efrasin, Janos Sztrik, and Mais Faehadov	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 Efrasin	Mikhail Sukharev Dmitry Nazarov and Oleg Abramov Igor Gurevich and Mais Farkhadov	Reliability Indices Estimation of Pipeline Networks Application of Regions of Acceptability for Sensitivity Analysis Investigation Characteristics and Properties of Queueing networks to Provide Their Sustainability
2F1	C	II-3	C-II-3	Accelerate life testing			Xiaoling Xu, Ronghua Wang and Beiqing Gu Yi-Chao Yin, Chengheng 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 Dijoux Ren Yan Jiang	Exploring the Consistency of Maximum Likelihood Estimator of Imperfect Repair ARA I Models Computed from a Single Trajectory A Better-than-new 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 and Lance Fiondella Fumio Ohi	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, Enrico Zio Tian Zhang, Rui Peng, Wenbin Wang, Qingqing Zhai, and Yi Ding Lev Khvatskin, Ilya Frenkel and Anatoly Lisnianski	Competing Failure Analysis in Phased-mission Systems with Global and Selective Propagation Effects A Dynamic Programming Approach for the Efficient Reliability Evaluation of Multi-State Series-Parallel System Optimal Inspection and Replacement Strategy for Systems Subject to Two Types of Failures Importance Assessment of Aging Multi-state Water Cooling System by LZ-transform Method

2G1	C	I-5	C-I-5	Optimization			Hadi Khorshidi, Indra Gunawan and M. Yousef Ibrahim Hailong Jing, Yunxia Chen and Rui Kang Pin-Wei Chiang, Wei-Chun Hung, Ruey-Huei Yeh, Hui-Syuan Huang and Wen Liang Chang	An Investigation on Imperialist Competitive Algorithm for Solving Reliability-Redundancy Allocation Problem 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, Aurelie Leger, Herve Barthelemy and Coraline Neiss Gaspard Ping Jiang and Yunyan Xing Baptiste Gregorutti, Bertrand Michel and Philippe Saint-Pierre	A New Method and Tool for Reliability Assessments of Gated Spillway Systems Multivariate Degradation Prediction Based on Mahalanobis Distance and Relevance Vector Machines 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	Sanjib Basu P. G. Sankaran Fotios Milienos, Narayanaswamy Balakrishnan, and Markos Koutras	Competing Risks Limited Failure Models: identifiability 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		Ali Riza Bozbulut and Serkan Eryilmaz Shubin Si, Ning Wang, and Hongyan Dui Jiangbin Zhao, Zhiqiang Cai, Hongguang Li, and Shubin Si	Reliability Importance in Systems with Weighted Components 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 Gaofeng Da Weiyong Ding	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 Heterogenous Samples
3A2	I	12	I-12	Lifetime Data Analysis	Mei-Ling Ting Lee		A. Adam Ding, Jin-Jian Hsieh, and Weijing Wang Deng-Huang Su, Tsung-Chiung Fu and Shu-Hui Chang (Tony) Jianguo Sun	Local Linear Estimation of Concordance Probability with Application to Covariate Effects Models on Association for Bivariate Failure-time Data 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	N. Balakrishnan		William Volterman Chih Chun Tsai, Chien-Tai Lin and N. Balakrishnan Hideki Nagatsuka and N. Balakrishnan	Pooling 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	N. Balakrishnan		Yandan Yang, Hon Keung Tony Ng and Narayanaswamy Balakrishnan Anna Dembinska Toshinari Kamakura	A Stochastic Expectation-Maximization Algorithm for the Analysis of System Lifetime Data with Known Signature Discrete Order Statistics for Non-Identically Distributed Variates with Applications to Reliability Likelihood-based Inference on Weibull Distribution
3C1	I	30	I-30	Software System Reliability II	Tadashi Dohi	Mitsuhiro Kimura	Mitsuhiro Kimura, Naomichi Hata, and Takaji Fujiwara Shinji Inoue and Shigeru Yamada Qingpei Hu and Lujia 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	Hiroyuki Okamura	Yoshinobu Tamura and Shigeru Yamada Mamoru Ohara and Satoshi Fukumoto Mitsutaka Kimura, Mitsuhiro Imaizumi, 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 Lai Tang and Hon Keung Tony Ng Zhisheng Ye Xingqiu Zhao	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		Ping Shing Chan, Peng Zhao, and Hon Keung Tony Man-Ho Ling, Hon Yiu So, and Narayanaswamy Balakrishnan Feng Su, Xiaojun Zhu, and N. 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, Cunhua Qian, and Toshio Nakagawa Ferenc Szidarovszky, Harry Guo, Akio Matsumoto, Miklos 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	Stochastic Model of Commercial Airframe Maintenance Discrete Replacement Models with Works and Failures Extended Replacement Over-time 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 Ilya Gertsbakh Mahmood Shafiee, Maxim Finkelstein, and Christophe Berenguer Trifon I. Missov and James W. Vaupel	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)	C-I-7(5)	Decision making in reliability			Zongke He, Zhengrong Shen and Debin Cheng Cheng-Ta Yeh Francisco Germán Badia 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 Nonlinear Shortage Costs and Stochastic Lead Times and Queueing Systems; Applications of Shape Properties of Randomly Stopped Counting Process
3G1	I	38	I-38	Theory and Methods for System Reliability	LiRong Cui		Hongyan Dui and Liwei Chen Xujie Jia and Gang Li Lirong Cui, Yan Li, and Jingyuan Shen Zhiqiang Cai & Shubin Si	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 On Some Problems for Aggregated Stochastic Processes in Reliability Reliability Analysis of a Three Node WSN Model
3G2	C	I-4(6)	C-I-4(6)	System reliability			Ronghua Wang, Xiaoling Xu and Beiqing Gu Syamsundar Annamraju Wei-Chang Yeh, Haw-Sheng Wu and Chyh-Ming Lai S. B. Singh and Khushal Singh Bohra Zhiguo Zeng, Qingyuan Zhang, Yunxia Chen and Rui Kang Konul Bayramoglu	Depiction of Exponential Distribution by Using Order Statistics Assessing Reliability of Large and Complex Industrial Repairable Systems Using 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 Dependent Components in Active Redundancy
4A1	I	39	I-39	Warranty Data Analysis	Stefanka Chukova and Yu Hayakawa	Yu Hayakawa	Bharatendra Rai Xin Wang and Zhisheng Ye Stefanka Chukova and Yu Hayakawa	Warranty Spend Prediction for Failures Influenced by Seasonality Warranty Data Analysis Concerning Customer's Reporting Behaviour 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 Milienos, Narayanaswamy Balakrishnan and Markos Koutras Markos Koutras, Narayanaswamy Balakrishnan, and Fotios 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	Xiao Xiao	Mitsuhiro Imaizumi and Mitsutaka Kimura Syoyuji 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		Inmaculada T. Castro, Ji Hwan Cha and Carmen Sangüesa Christian Paroissin 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 Sour Inference for the Wiener Process with Random Initiation 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 Takeshi Matsuoka Nikolaos Limnios	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. Pena 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 Models in Reliability and Survival Analysis for Recurrent Competing Risks, Longitudinal Markers, and Terminal Events
4G1	I	23	I-23	OPTIMIZATION METHODS IN SYSTEMS RELIABILITY THEORY	Hisashi Yamamoto & Won Young Yun		Won Young Yun, Young-Jin Han, and Won-Seok Jeon Tomooki Akiba Kaio Xiao	Preventive Maintenance Intervals for a Multi-unit System Reliability of 3 Dimensional Consecutive-k System Reconsideration of Network Types - the cases of e=n+1, e=n+2 and e=n+3 -