

2019 22nd International Conference on Information Fusion (FUSION 2019)

**Ottawa, Ontario, Canada
2 – 5 July 2019**

Pages 1-694



**IEEE Catalog Number: CFP19FUS-POD
ISBN: 978-1-7281-1840-6**

**Copyright © 2019, ISIF – International Society of Information Fusion
All Rights Reserved**

****** This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP19FUS-POD
ISBN (Print-On-Demand):	978-1-7281-1840-6
ISBN (Online):	978-0-9964527-8-6

Additional Copies of This Publication Are Available From:

Curran Associates, Inc
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: (845) 758-0400
Fax: (845) 758-2633
E-mail: curran@proceedings.com
Web: www.proceedings.com

CURRAN ASSOCIATES INC.
proceedings
.com

TABLE OF CONTENTS

INTERACTING T-S FUZZY MODEL PARTICLE FILTER	1
<i>Liang-Qun Li ; Xiao-Li Wang ; Wei-Xin Xie</i>	
ONLINE MULTI-OBJECT VISUAL TRACKING USING A GM-PHD FILTER WITH DEEP APPEARANCE LEARNING.....	7
<i>Nathanael L. Baisa</i>	
DECISION SEQUENCING AND DISTRIBUTED DATA ASSOCIATION	15
<i>Stefano Coraluppi ; Laura Vertatschitsch ; Craig Carthel</i>	
GRAPH-BASED TRACKING WITH UNCERTAIN ID MEASUREMENT ASSOCIATIONS.....	23
<i>Stefano P. Coraluppi ; Craig A. Carthel ; Alan S. Willsky</i>	
ROBUST PARTICLE FILTERING VIA BAYESIAN NONPARAMETRIC OUTLIER MODELING (POSTER).....	31
<i>Bin Liu</i>	
AN APPLICATION OF POLYMORPHIC MODELS FOR THE PURPOSE OF THREAT ASSESSMENT IN SWARM-BASED RECOGNITION SYSTEM	36
<i>Ksawery Krenc</i>	
APPROXIMATION OF BASIC BELIEF ASSIGNMENT BASED ON FOCAL ELEMENT COMPATIBILITY	42
<i>Qing Wei ; Xinde Li ; Jean Dezert</i>	
A NEUTROSOPHIC SET BASED FAULT DIAGNOSIS METHOD BASED ON POWER AVERAGE OPERATOR (POSTER)	50
<i>Yu Zhong ; Xinyang Deng ; Wen Jiang</i>	
STRONG TRACKING FILTERS: DERIVATION AND IMPROVED HEURISTIC	56
<i>David Frederic Crouse</i>	
ROOS' MATRIX PERMANENT APPROXIMATION BOUNDS FOR DATA ASSOCIATION PROBABILITIES (POSTER)	64
<i>Lingji Chen</i>	
ASSESSMENT OF TRUST IN OPPORTUNISTIC REPORTING USING BELIEF FUNCTIONS.....	68
<i>Valentina Dragos ; Jean Dezert ; Kellyn Rein</i>	
INFORMATIVE PATH PLANNING IN THE PRESENCE OF ADVERSARIAL OBSERVERS	76
<i>Per Boström-Rost ; Daniel Axehill ; Gustaf Hendeby</i>	
EXTRACTION OF MOTION ARTIFACTS FROM THE MEASUREMENTS OF A WIRELESS ELECTROCARDIOGRAM USING TENSOR DECOMPOSITION	83
<i>Jannis Lilienthal ; Walteneus Dargie</i>	
WHY YOUR HEART WAS BEATING: POSTER	91
<i>Walteneus Dargie</i>	
SAR ATR BY DECISION FUSION OF MULTIPLE RANDOM CONVOLUTION FEATURES.....	97
<i>Yu Gu ; Ying Xu ; Jun Liu</i>	
PROBABILITY DISTRIBUTION FOR ASSOCIATION OF MANEUVERING VEHICLES.....	105
<i>Brita H. H. Gade ; Carina N. Vooren ; Morten Kloster</i>	
COMBINING DEEP LEARNING AND MODEL-BASED METHODS FOR ROBUST REAL-TIME SEMANTIC LANDMARK DETECTION	112
<i>Benjamin Naujoks ; Patrick Burger ; Hans-Joachim Wuensche</i>	
A POISSON MULTI-BERNOULLI FILTER WITH TARGET SPAWNING	120
<i>Zhenzhen Su ; Hongbing Ji ; Yongquan Zhang</i>	
RADIO SOURCE LOCALIZATION USING RECEIVED SIGNAL STRENGTH IN A MULTIPATH ENVIRONMENT.....	126
<i>Shuai Sun ; Xuechi Wang ; Bill Moran ; Akram Al-Hourani ; Wayne S. T. Rowe</i>	
SIMPLIFICATION OF MULTI-CRITERIA DECISION-MAKING USING INTER-CRITERIA ANALYSIS AND BELIEF FUNCTIONS.....	132
<i>Jean Dezert ; Albená Tchamova ; Deqiang Han ; Jean-Marc Tacnet</i>	
A SIMPLIFIED FORMULATION OF GENERALIZED BAYES' THEOREM.....	140
<i>Jean Dezert ; Albená Tchamova ; Deqiang Han ; Thanuka Wickramaratne</i>	
FUSION BASED ESTIMATION OF THE A-PRIORI PROBABILITY DISTRIBUTION OF UNKNOWN NON-STATIONARY PROCESSES	148
<i>Marek Junghans ; Andreas Leich</i>	

EFFECTS OF INTERDEPENDENCIES ON GAME-THEORETIC DEFENSE OF CYBER-PHYSICAL INFRASTRUCTURES.....	156
<i>Fei He ; Santhosh Chandrasekar ; Nageswara S. V. Rao ; Chris Y. T. Ma</i>	
PARTICLE FLOW FILTERS: BIASES AND BIAS AVOIDANCE	164
<i>David Frederic Crouse</i>	
ENTROPY-BASED METRICS FOR URREF CRITERIA TO ASSESS UNCERTAINTY IN BAYESIAN NETWORKS FOR CYBER THREAT DETECTION	172
<i>V. Dragos ; J. Ziegler ; J. P De Villiers ; A. De Waal ; A-L. Joussemme ; E. Blasch</i>	
SPOOKY EFFECT IN OPTIMAL OSPA ESTIMATION AND HOW GOSPA SOLVES IT	180
<i>Ángel F. García-Fernández ; Lennart Svensson</i>	
BISTATIC TRACK ASSOCIATION BASED ON SINGULAR SPECTRUM ANALYSIS	188
<i>Pavel Kulmon ; Petra Štukovská</i>	
DEEP CORRELATION FILTER BASED REAL-TIME TRACKER	195
<i>Lei Pu ; Xinxi Feng ; Zhiqiang Hou ; Wangsheng Yu ; Yufei Zha ; Sugang Ma</i>	
MULTI-TARGET TRACKING ALGORITHM BASED ON MULTI-SOURCE CLUSTERING IN DISTRIBUTED RADAR NETWORK (POSTER)	203
<i>Qiao Shi ; Tianxian Zhang ; Guolong Cui ; Lingjiang Kong</i>	
AN OPTIMAL BIT ALLOCATION SCHEME FOR COOPERATIVE SPECTRUM SENSING IN COGNITIVE RADIO NETWORKS.....	209
<i>Junhai Luo ; Xiaoting He ; Man Wu ; Yanping Chen ; Yang Yang</i>	
GAUSSIAN IMPLEMENTATION OF THE MULTI-BERNOULLI MIXTURE FILTER.....	217
<i>Ángel F. García-Fernández ; Yuxuan Xia ; Karl Granström ; Lennart Svensson ; Jason L. Williams</i>	
ON COMBINING PROBABILISTIC AND SEMANTIC SIMILARITY-BASED METHODS TOWARD OFF-DOMAIN REASONING FOR SITUATIONAL AWARENESS	225
<i>Van Nguyen</i>	
SCHMIDT-KALMAN FILTER WITH POLYNOMIAL CHAOS EXPANSION FOR STATE ESTIMATION	233
<i>Yang Yang ; Han Cai ; Baichun Gong ; Robert Norman</i>	
HETEROGENEOUS FUSION OF AN IMM TRACK WITH MEASUREMENTS FROM DIFFERENT SOURCES.....	241
<i>Rong Yang ; Yaakov Bar-Shalom ; Gee Wah Ng</i>	
DEEPDA: LSTM-BASED DEEP DATA ASSOCIATION NETWORK FOR MULTI-TARGETS TRACKING IN CLUTTER.....	249
<i>Huajun Liu ; Hui Zhang ; Christoph Mertz</i>	
BAYESIAN EXTENDED OBJECT SMOOTHING FOR THE RANDOM MATRIX MODEL.....	257
<i>Karl Granström ; Jakob Bramstång</i>	
VEHICLE POSE ESTIMATION BASED ON EDGE DISTANCE USING LIDAR POINT CLOUDS (POSTER).....	265
<i>Jihuang Yang ; Guoqi Zeng ; Wenguang Wang ; Yan Zuo ; Bin Yang ; Yisong Zhang</i>	
JOINTLY TRAINED VARIATIONAL AUTOENCODER FOR MULTI-MODAL SENSOR FUSION.....	271
<i>Timo Korthals ; Marc Hesse ; Jürgen Leitner ; Andrew Melnik ; Ulrich Rückert</i>	
SYSTEMATIC ANALYSIS OF THE PMBM, PHD, JPDA AND GNN MULTI-TARGET TRACKING FILTERS	279
<i>Julian Smith ; Florian Particke ; Markus Hiller ; Jörn Thielecke</i>	
SENSOR REGISTRATION AND TRACKING FROM HETEROGENEOUS SENSORS WITH BELIEF PROPAGATION.....	287
<i>David Cormack ; James R. Hopgood</i>	
ROBUST SEMANTIC SEGMENTATION IN ADVERSE WEATHER CONDITIONS BY MEANS OF SENSOR DATA FUSION.....	295
<i>Andreas Pfeuffer ; Klaus Dietmayer</i>	
PARTICLE FILTERING APPROACH FOR DATA ASSOCIATION	303
<i>Zoran Sjanic</i>	
DISTRIBUTED DETECTION OF GENERALIZED GAUSSIAN SPARSE SIGNALS WITH ONE-BIT MEASUREMENTS (POSTER).....	309
<i>Xueqian Wang ; Gang Li ; Chen Quan ; Pramod K. Varshney</i>	
A PILOT STUDY ON DETECTING VIOLENCE IN VIDEOS FUSING PROXY MODELS	314
<i>Marc Roig Vilamala ; Liam Hiley ; Yulia Hicks ; Alun Preece ; Federico Cerutti</i>	
A MULTIPLE HYPOTHESIS APPROACH TO EXTENDED TARGET TRACKING	322
<i>Jean-François Bariant ; Llarina Lobo Palacios ; Muhammad Nassef Hassaan ; Charles Thin</i>	
LOG-LINEAR CHERNOFF FUSION FOR DISTRIBUTED PARTICLE FILTERING	330
<i>Nadav Lehrer ; Or Tsilil ; Avisly Carmi</i>	

MODELING OF HUMAN INFORMATION PROCESSING IN HARD-SOFT FUSION (POSTER)	339
<i>Aditya Vempaty</i>	
RRT* TRAJECTORY SCHEDULING USING ANGLES-ONLY MEASUREMENTS FOR AUV RECOVERY	345
<i>Xuezhi Wang ; Simon Williams ; Daniel Angley ; Christopher Gilliam ; Trevor Jackson ; Richard Ellem ; Amanda Bessell ; Bill Moran</i>	
NOVEL ADAPTIVE DWELL SCHEDULING ALGORITHM FOR DIGITAL ARRAY RADAR BASED ON PULSE INTERLEAVING	351
<i>Xiaoying Lu ; Ting Cheng ; Han Peng ; Zishu He ; Huiyong Li</i>	
MULTI-ALGORITHMIC FUSION FOR RELIABLE AGE AND GENDER ESTIMATION FROM FACE IMAGES	359
<i>Philipp Terhörst ; Marco Huber ; Jan Niklas Kolf ; Naser Damer ; Florian Kirchbuchner ; Arjan Kuijper</i>	
THE DUAL-FREQUENCY POST-CORRELATION DIFFERENCE FEATURE FOR DETECTION OF MULTIPATH AND NON-LINE-OF-SIGHT ERRORS IN SATELLITE NAVIGATION	367
<i>Simon Ollander ; Friedrich-Wilhelm Bode ; Marcus Baum</i>	
EXPLOITING THE MOMENTARY DEPENDENCE OF RADAR OBSERVATIONS FOR NON-COOPERATIVE TARGET RECOGNITION	375
<i>Minna Väilä ; Juha Jylhä ; Marja Ruotsalainen ; Henna Perälä</i>	
DISTRIBUTED POWER MEAN FUSION	381
<i>Clark N. Taylor ; Adrian N. Bishop</i>	
DETECTING AND TRACKING SMALL MOVING OBJECTS IN WIDE AREA MOTION IMAGERY (WAMI) USING CONVOLUTIONAL NEURAL NETWORKS (CNNs)	389
<i>Yifan Zhou ; Simon Maskell</i>	
A ROLLOUT BASED PATH PLANNER FOR EMITTER LOCALIZATION	397
<i>Folker Hoffmann ; Hans Schily ; Alexander Charlish ; Matthew Ritchie ; Hugh Griffiths</i>	
DISTRIBUTED MULTIPLE HYPOTHESIS TRACKING IN FINITE POINT PROCESS FORMALISM: A SIMPLE TWO STATION CASE	405
<i>Shozo Mori ; Chee-Yee Chong ; Kc Chang</i>	
UNCERTAINTY ONTOLOGY FOR VERACITY AND RELEVANCE	413
<i>Erik P. Blasch ; Carlos C. Insaurralde ; Paulo Costa ; Alta De Waal ; J. Pieter De Villiers</i>	
ARTIFICIAL INTELLIGENCE IN USE BY MULTIMODAL FUSION	421
<i>Erik P. Blasch ; Uttam Majumder ; Todd Rovito ; Ali K. Raz</i>	
ADAPTIVE RESOURCE MANAGEMENT IN MULTI-TARGET TRACKING FOR COLLOCATED MIMO RADAR WITH SIMULTANEOUS MULTIBEAM	429
<i>Xuejiao Wei ; Ting Cheng ; Han Peng</i>	
TIME-OFFSET ESTIMATION IN MULTISENSOR TRACKING SYSTEMS	437
<i>Song Li ; Yongmei Cheng ; Daly Brown ; Ratnasingham Tharmarasa ; Gongjian Zhou ; Thia Kirubarajan</i>	
A NOVEL DP-TBD ALGORITHM FOR TRACKING SLOWLY MANEUVERING TARGETS USING VISAR IMAGE SEQUENCES	445
<i>Xiaoqing Tian ; Jing Liu ; Shuncheng Tan</i>	
A FAST COMPRESSED SENSING 3D SAR IMAGING METHOD BASED ON THE ADAPTIVE THRESHOLD	452
<i>Bokun Tian ; Xiaoling Zhang ; Liwei Dang ; Shunjun Wei</i>	
A NOVEL INTERACTING T-S FUZZY MULTIPLE MODEL BY USING UKF FOR MANEUVERING TARGET TRACKING	458
<i>Liang-Qun Li ; Da Zhao ; Cheng-Da Luo</i>	
GA-ML-PDA BASED TRACK INITIALIZATION WITH PASSIVE MULTISTATIC RADAR (POSTER)	465
<i>Yunfei Guo ; Zhuoer Tian ; Dongliang Peng ; Han Shentu ; Tongjing Sun ; Mengfan Xue</i>	
A ROBUST STUDENT'S T-BASED LABELED MULTI-BERNOULLI FILTER	471
<i>Wanying Zhang ; Yan Liang ; Feng Yang ; Linfeng Xu</i>	
CONTINUUM DETECTION AND PREDICTIVE-CORRECTIVE CLASSIFICATION OF CRACK NETWORKS	477
<i>J. Josiah Steckenrider ; Tomonari Furukawa</i>	
CASCADED BEARING ONLY SLAM WITH UNIFORM SEMI-GLOBAL ASYMPTOTIC STABILITY	485
<i>Elias Bjørne ; Tor Arne Johansen ; Edmund Førland Brekke</i>	
BALLISTIC TRAJECTORY ESTIMATION USING POLYNOMIAL CHAOS BASED SQUARE ROOT ENSEMBLE FILTER	493
<i>Tao Sun ; Ruixin Niu ; Mulugeta Haile</i>	

A SQUARE-ROOT VERSION DISTRIBUTED NONLINEAR FILTER BASED ON INFORMATION CONSENSUS	500
<i>Jun Liu ; Yu Liu ; Kai Dong ; Shun Sun ; Ziran Ding ; Qichao Li</i>	
DERIVED HEADING USING LAGRANGE FIVE POINT DIFFERENCE METHOD AND FUSION (POSTER).....	508
<i>B. Sindhu ; J. Valarmathi ; S. Christopher</i>	
EXTENDED KALMAN FILTER FOR MAGNETOMETER-FREE ESTIMATION OF SPACESUIT WEARER JOINT KINEMATICS USING INERTIAL MEASUREMENTS.....	513
<i>Young-Young Shen ; Allison P. Anderson</i>	
RAO-BLACKWELLISED POINT-MASS SMOOTHERS FOR A CLASS OF CONDITIONALLY LINEAR DYNAMIC MODELS	521
<i>J. Dunik ; O. Straka</i>	
ON FUSION OF PARTIAL ESTIMATES UNDER IMPLICIT PARTIAL KNOWLEDGE OF CORRELATION	529
<i>Jiri Ajgl ; Ondrej Straka</i>	
APPLICATION OF SVD FOR REMOVING MOTION ARTIFACTS FROM THE MEASUREMENTS OF A WIRELESS ELECTROCARDIOGRAM.....	537
<i>Waltenegus Dargie ; Jannis Lilienthal</i>	
STUDY OF PANSHARPENING METHODS APPLIED TO HYPERSPECTRAL IMAGES OF SEDIMENT CORES (POSTER).....	545
<i>Kévin Jacq ; Didier Coquin ; Bernard Fanget ; Yves Perrette ; Maxime Debret</i>	
ON ATTITUDE REPRESENTATIONS FOR OPTIMIZATION-BASED BAYESIAN SMOOTHING.....	551
<i>Michael Lorenz ; Bertram Taetz ; Manon Kok ; Gabriele Bleser</i>	
SLAM BASED ON DOUBLE LAYER CUBATURE KALMAN FILTER	559
<i>Feng Yang ; Bo Jin ; Mengting Yan ; Yujuan Luo</i>	
EXTREMELY TINY SIAMESE NETWORKS WITH MULTI-LEVEL FUSIONS FOR VISUAL OBJECT TRACKING.....	566
<i>Yi Cao ; Hongbing Ji ; Wenbo Zhang ; Shahram Shirani</i>	
INFORMATION SECURITY ANALYSIS AS DATA FUSION	573
<i>Markus De Shon</i>	
JOINT RGB-POSE BASED HUMAN ACTION RECOGNITION FOR ANOMALY DETECTION APPLICATIONS	581
<i>Federico Angelini ; Syed Mohsen Naqvi</i>	
DISTRIBUTED INFORMATION FILTER FOR LINEAR SYSTEMS WITH COLORED MEASUREMENT NOISE	588
<i>Yanbo Yang ; Yuemei Qin ; Quan Pan ; Yanting Yang ; Zhi Li</i>	
ZERO-LEARNING FAST MEDICAL IMAGE FUSION	595
<i>Fayez Lahoud ; Sabine Süsstrunk</i>	
VEHICLE DISAMBIGUATION FROM MULTIPLE OBSERVATIONS	603
<i>Madison Wyatt ; Luke Perkins ; Gokul Subramanian ; Sarah Carpenter ; Michael Braun ; Stefano Coraluppi</i>	
SIMULTANEOUS STATE AND PARAMETER ESTIMATION WITH TRAJECTORY SHAPE CONSTRAINTS (POSTER).....	611
<i>Keyi Li ; Gongjian Zhou ; Thia Kirubarajan ; Jiazhou He</i>	
SQUARE ROOT PARTIAL-UPDATE KALMAN FILTER.....	617
<i>J. Humberto Ramos ; Kevin M. Brink ; John E. Hurtado</i>	
A SMART BODY AREA NETWORK FOR DIABETES MANAGEMENT	625
<i>Richard W. Jones</i>	
OBJECT FUSION TRACKING BASED ON VISIBLE AND INFRARED IMAGES USING FULLY CONVOLUTIONAL SIAMESE NETWORKS	633
<i>Xingchen Zhang ; Ping Ye ; Dan Qiao ; Junhao Zhao ; Shengyun Peng ; Gang Xiao</i>	
JOINT MULTI-TARGET TRACKING AND PARAMETER ESTIMATION WITH THE SECOND-ORDER FACTORIAL CUMULANT FILTER	641
<i>Daniel E. Clark ; Mark Campbell</i>	
TARGET THREAT ASSESSMENT BASED ON ENSEMBLES OF MULTI-CRITERIA DECISION MAKING METHODS (POSTER).....	649
<i>Chi-Hong Cheung ; Rahim Jassemi-Zargani</i>	
PARTICLE FILTERING FOR AUTOMOTIVE: A SURVEY.....	655
<i>Karl Berntorp ; Stefano Di Cairano</i>	
PERFORMANCE BOUNDS IN POSITIONING WITH THE VIVE LIGHTHOUSE SYSTEM.....	663
<i>Marcus Greiff ; Anders Robertsson ; Karl Berntorp</i>	

FUSION-BASED WAYFINDING PREDICTION MODEL FOR MULTIPLE INFORMATION SOURCES	671
<i>Rohit K. Dubey ; Samuel S. Sohn ; Christoph Hoelscher ; Mubbasir Kapadia</i>	
GAUSSIAN MIXTURES MATCH AND FUSION ALGORITHMS FOR MULTI-SENSOR MULTI-TARGET TRACKING	679
<i>Han Shen-Tu ; Yingjiao Rong ; Yunfei Guo ; Ji-An Luo ; Yifang Shi</i>	
DOPPLER BEARING TRACKING WITH FUSION FROM HETEROGENEOUS PASSIVE SENSORS: ESM/EO AND ACOUSTIC	687
<i>Jessica Koon Yan Goh ; Rong Yang</i>	
ENHANCED MULTIPLE MODEL GPB2 FILTERING USING VARIATIONAL INFERENCE	695
<i>Xi Li ; Yi Liu ; Lyudmila Mihaylova ; Le Yang ; Steve Weddell ; Fucheng Guo</i>	
JOINT CALIBRATION OF INERTIAL SENSORS AND MAGNETOMETERS USING VON MISES-FISHER FILTERING AND EXPECTATION MAXIMIZATION	704
<i>Roland Hostettler ; Ángel F. García-Fernandez ; Filip Tronarp ; Simo Särkkä</i>	
EVIDENTIAL REASONING FOR SHIP CLASSIFICATION: FUSION OF DEEP LEARNING CLASSIFIERS	712
<i>Benoit Debaque ; Mihai Cristian Florea ; Nicolas Duclos-Hindié ; Anne-Claire Boury-Brisset</i>	
SCALING DATA ASSOCIATION FOR HYPOTHESIS-ORIENTED MHT	720
<i>Michael Motro ; Joydeep Ghosh</i>	
DISTRIBUTED RESAMPLING GAUSSIAN PARTICLE FILTERING FOR HETEROGENEOUS NETWORKS	728
<i>Meiqiu Sun ; Wei Xia ; Qian Wang</i>	
PATTERN CLASSIFICATION IN HETEROGENEOUS DOMAINS BASED ON EVIDENCE THEORY (POSTER)	734
<i>Zhun-Ga Liu ; Guanghui Qiu ; Gregoire Mercier ; Quan Pan</i>	
A GAUSSIAN PROCESS REGRESSION APPROACH FOR POINT TARGET TRACKING	740
<i>Waqas Aftab ; Lyudmila Mihaylova</i>	
FRAMING SITUATION PREDICTION AS A SEQUENCE PREDICTION PROBLEM: A SITUATION EVOLUTION MODEL BASED ON CONTINUOUS-TIME MARKOV CHAINS	748
<i>Andrea Salfinger</i>	
FUSION OF LIDAR AND CAMERA IMAGES IN END-TO-END DEEP LEARNING FOR STEERING AN OFF-ROAD UNMANNED GROUND VEHICLE	756
<i>Narada Warakagoda ; Johann Dirdal ; Erlend Faxvaag</i>	
MULTI-BAND IMAGE FUSION USING GAUSSIAN PROCESS REGRESSION WITH SPARSE RATIONAL QUADRATIC KERNEL	764
<i>Fodio S. Longman ; Lyudmila Mihaylova ; Le Yang ; Konstantinos N. Topouzelis</i>	
SECURE METHOD FOR DE-IDENTIFYING AND ANONYMIZING LARGE PANEL DATASETS	772
<i>Mohanad Ajina ; Bahram Yousefi ; Jim Jones ; Kathryn Laskey</i>	
NON-RIGID IMAGE FEATURE MATCHING BY STRUCTURE CONSTRAINTS	779
<i>Hao Zhu ; Ke Zou ; Yongfu Li ; Henry Leung ; Zhen Tian</i>	
POSTERIOR CRAMÉR-RAO LOWER BOUNDS FOR EXTENDED TARGET TRACKING WITH GAUSSIAN PROCESS PMHT	786
<i>Xu Tang ; Mingyan Li ; Ratnasingham Tharmarasa ; Thia Kirubarajan</i>	
GIBBS SAMPLING OF MEASUREMENT PARTITIONS AND ASSOCIATIONS FOR EXTENDED MULTI-TARGET TRACKING	794
<i>Jens Honer ; Fabian Schmieder</i>	
SEQUENTIAL MONTE CARLO FILTERING WITH LONG SHORT-TERM MEMORY PREDICTION	802
<i>Steffen Jung ; Isabel Schlangen ; Alexander Charlish</i>	
OPTIMAL FUSION OF ELLIPTIC EXTENDED TARGET ESTIMATES BASED ON THE WASSERSTEIN DISTANCE	809
<i>Kolja Thormann ; Marcus Baum</i>	
A NEW NETWORK STRUCTURE FOR SEMANTIC SEGMENTATION OF SHIP TARGETS IN REMOTE SENSING	815
<i>Cai Mi ; Cui Yaqi ; Lv Yafei ; Zhang Jing ; Xiong Wei ; Pei Jiazheng</i>	
TRACKING OF SPLINE MODELED EXTENDED TARGETS USING A GAUSSIAN MIXTURE PHD FILTER	823
<i>Tim Baur ; Julian Böhler ; Stefan Wirtensohn ; Johannes Reuter</i>	
TRACKING TARGETS WITH KNOWN SPATIAL EXTENT USING EXPERIMENTAL MARINE RADAR DATA	831
<i>Jaya Shradha Fowdur ; Marcus Baum ; Frank Heymann</i>	

STUDENT'S T INFORMATION FILTER WITH ADAPTIVE DEGREE OF FREEDOM FOR MULTI-SENSOR FUSION.....	839
<i>Joelle Al Hage ; Philippe Xu ; Philippe Bonnifait</i>	
ON ITERATIVE UNSCENTED KALMAN FILTER USING OPTIMIZATION.....	847
<i>Martin A. Skoglund ; Fredrik Gustafsson ; Gustaf Hendeby</i>	
MAXIMUM LIKELIHOOD DETECTION IN FOCAL PLANE ARRAYS WITH GENERIC POINT SPREAD FUNCTION (POSTER).....	855
<i>K. Kiani ; B. Balasingam ; B. Shahrrava</i>	
TYPE II APPROXIMATE BAYES PERSPECTIVE TO MULTIPLE HYPOTHESIS TRACKING.....	862
<i>Murat Üney</i>	
HOW TO EVALUATE HIGH LEVEL FUSION ALGORITHMS?.....	870
<i>Claire Laudy ; Nicolas Museux</i>	
EXTRACTING HUMAN BREATHING RATE FROM THE FUSION OF MULTIPLE PIEZO-RESISTIVE MEMBRANES.....	878
<i>Bénédicte Chatelais ; Jean-François Gagnon</i>	
TERRAIN-AIDED NAVIGATION WITH AN ATOMIC GRAVIMETER.....	885
<i>C. Musso ; B. Sacleux ; A. Bresson ; Jm. Allard ; K. Dahia ; Y. Bidel ; N. Zahzam ; C. Palmier</i>	
ON MALICIOUS AGENTS IN NON-BAYESIAN SOCIAL LEARNING WITH UNCERTAIN MODELS.....	893
<i>James Zachary Hare ; César A. Uribe ; Lance M. Kaplan ; Ali Jadbabaie</i>	
ON DECENTRALIZED SELF-LOCALIZATION AND TRACKING UNDER MEASUREMENT ORIGIN UNCERTAINTY.....	901
<i>Pranay Sharma ; Augustin-Alexandru Saucan ; Donald J. Bucci ; Pramod K. Varshney</i>	
HYBRID FEATURE FUSION USING RNN AND PRE-TRAINED CNN FOR CLASSIFICATION OF ALZHEIMER'S DISEASE (POSTER).....	909
<i>Emimal Jabason ; M. Omair Ahmad ; M. N. S. Swamy</i>	
FUSION OF SAR AND MULTISPECTRAL SATELLITE IMAGES USING MULTISCALE ANALYSIS AND DEMPSTER-SHAFER THEORY FOR FLOOD EXTENT EXTRACTION.....	913
<i>Moslem Ouled Sghaier ; Melita Hadzagic ; Jiri Patera</i>	
MULTI-SENSOR PASSIVE LOCALIZATION BASED ON SENSOR SELECTION.....	921
<i>Wen Ma ; Hongyan Zhu ; Yan Lin</i>	
OPTIMAL PARTICLE FILTER BASED ON BAYESIAN SOLUTION FOR MULTIPLE OUT-OF-SEQUENCE MEASUREMENTS.....	929
<i>Qi Yang ; Wei Yi</i>	
SOME RESULTS ON GENERALIZED ELLIPSOID INTERSECTION FUSION.....	935
<i>Hanning Tang ; Haiqi Liu ; Bing Liu ; Xiaojing Shen ; Pramod K. Varshney</i>	
ACTIVE RFID BASED INDOOR LOCALIZATION.....	941
<i>Jingyu Wang ; Ravindra Kumar Dhanapal ; Priyadharshini Ramakrishnan ; Balakumar Balasingam ; Thiago Souza ; Roman Maev</i>	
MULTI-RATE ASYNCHRONOUS DISTRIBUTED FILTERING UNDER RANDOMIZED GOSSIP STRATEGY.....	948
<i>Teng Shao ; Zhansheng Duan ; Uwe D. Hanebeck</i>	
A DISTRIBUTED PHD FILTER FOR ON-LINE JOINT SENSOR REGISTRATION AND MULTI-TARGET TRACKING.....	956
<i>Lei Chai ; Wei Yi ; Xinyue Jiang ; Lingjiang Kong</i>	
MULTI-SENSOR BOX PARTICLE FILTER WITH ITERATED MEASUREMENT CONTRACTION.....	962
<i>Nanqi Chen ; Hongbing Ji ; Yongchan Gao</i>	
PARTITIONED UPDATE BINOMIAL GAUSSIAN MIXTURE FILTER.....	969
<i>Matti Raitoharju ; Ángel F. García-Fernández ; Simo Särkkä</i>	
SOLUTION SEPARATION UNSCENTED KALMAN FILTER.....	977
<i>J. Dunik ; O. Straka ; E. Blasch</i>	
NIGHT VISION COLORIZATION FROM COLOR MAPPING TO COLOR TRANSFERRING.....	985
<i>Yufeng Zheng ; Erik P. Blasch</i>	
ESTIMATION OF TARGET DETECTABILITY FOR MARITIME TARGET TRACKING IN THE PDA FRAMEWORK.....	992
<i>Erik F. Wilthil ; Yaakov Bar-Shalom ; Peter Willett ; Edmund Brekke</i>	
BEYOND 2D: FUSION OF MONOCULAR 3D POSE, MOTION AND APPEARANCE FOR HUMAN ACTION RECOGNITION.....	1000
<i>Wei Lin ; Jie Yu</i>	

CP BASED OFDM RADAR RANGE RECONSTRUCTION UNDER THE BACKGROUND OF FRAGMENTED SPECTRUM (POSTER)	1008
<i>Xinyu Liu ; Tianxian Zhang ; Qiao Shi ; Lingjiang Kong</i>	
SIMULATING NULL GAMES FOR UNCERTAINTY EVALUATION IN GREEN SECURITY GAMES	1014
<i>L. Kirkland ; A. De Waal ; J. P. De Villiers</i>	
DISCRETE GRID BASED DETECTION STRATEGIES FOR DISTRIBUTED MIMO RADARS	1022
<i>Shixing Yang ; Huaiying Tan ; Wei Yi ; Lingjiang Kong</i>	
PARTICLE FILTER TRACK-BEFORE-DETECT ALGORITHM WITH DISCONTINUOUS SIGNALS IN PASSIVE SENSOR SYSTEMS	1029
<i>Lingzhi Fu ; Huaiying Tan ; Wei Yi ; Lingjiang Kong</i>	
A FRAMEWORK FOR USING RADAR MEASUREMENTS OF UNKNOWN TARGETS IN HIERARCHICAL CLASSIFICATION	1035
<i>Marja Ruotsalainen ; Henna Perälä ; Minna Väilä ; Juha Jylhä ; Mikko Kauhanen</i>	
OBJECT DETECTION IN TENSOR DECOMPOSITION BASED MULTI TARGET TRACKING	1043
<i>Felix Govaers</i>	
UNSUPERVISED FACT-FINDING WITH MULTI-MODAL DATA IN SOCIAL SENSING	1051
<i>Huajie Shao ; Shuochao Yao ; Yiran Zhao ; Lu Su ; Zhibo Wang ; Dongxin Liu ; Shengzhong Liu ; Lance Kaplan ; Tarek Abdelzaher</i>	
DISTRIBUTED LEARNING OVER TIME-VARYING GRAPHS WITH ADVERSARIAL AGENTS	1059
<i>Pooja Vyavahare ; Lili Su ; Nitin H. Vaidya</i>	
CONTEXT-ENHANCED VEHICLE TRACKING METHOD UNDER THE CONNECTED ENVIRONMENT (POSTER)	1067
<i>Zhen Tian ; Yinguo Li ; Ming Cen ; Hao Zhu ; Thia Kirubarajan</i>	
ON DECOMBINATION OF BELIEF FUNCTION	1073
<i>Deqiang Han ; Yi Yang ; Jean Dezert</i>	
STATE EVALUATION OF GIS EQUIPMENT BASED ON MULTI-SENSOR INFORMATION FUSION (POSTER)	1079
<i>Xinlei Qiao ; Kai Gao ; Hua Huang ; Poyan Lu ; Li Ma ; Lijun Jin</i>	
MARKOV AND CONDITIONALLY MARKOV PROCESSES: FROM GAUSSIAN TO ELLIPTICAL	1085
<i>Mengjiao Tang ; Yao Rong ; X. Rong Li</i>	
HOW TO CALIBRATE YOUR ENEMY'S CAPABILITIES? INVERSE FILTERING FOR COUNTER-AUTONOMOUS SYSTEMS	1093
<i>Vikram Krishnamurthy ; Muralidhar Rangaswamy</i>	
TRACK-BEFORE-DETECT ON RADAR IMAGE OBSERVATION WITH AN ADAPTIVE AUXILIARY PARTICLE FILTER	1099
<i>Audrey Cuillery ; François Le Gland</i>	
FUSION OF DEEP NEURAL NETWORKS FOR ACTIVITY RECOGNITION: A REGULAR VINE COPULA BASED APPROACH	1107
<i>Shan Zhang ; Baocheng Geng ; Pramod K. Varshney ; Muralidhar Rangaswamy</i>	
BELIEF MOSAICS OF SUBJECTIVE OPINIONS	1114
<i>Audun Jøsang</i>	
EXTENDED TARGET TRACKING AND CLASSIFICATION USING NEURAL NETWORKS	1122
<i>Barkin Tuncer ; Murat Kumru ; Emre Özkan</i>	
END-TO-END MULTI-MODAL BEHAVIORAL CONTEXT RECOGNITION IN A REAL-LIFE SETTING	1129
<i>Aaqib Saeed ; Tanir Ozcelebi ; Stojan Trajanovski ; Johan J. Lukkien</i>	
QUICKEST DETECTION OF ABNORMAL VEHICLE MOVEMENTS ON HIGHWAYS	1137
<i>Jingyu Wang ; Ravindra Kumar Dhanapal ; Priyadharshini Ramakrishnan ; Balakumar Balasingam</i>	
ONLINE SYSTEM EVALUATION AND LEARNING OF DATA SOURCE MODELS: A PROBABILISTIC GENERATIVE APPROACH	1145
<i>Gregor Pavlin ; Anne-Laure Jousset ; Johan P. De Villiers ; Paulo C. Costa ; Kathryn Laskey ; Franck Mignet ; Alta De Waal</i>	
PROBABILISTIC ANALYSIS OF UAV ROUTING WITH DYNAMICALLY ARRIVING TARGETS	1155
<i>Hossein N. Z. Matin ; Ali Yekkehkhany ; Rakesh Nagi</i>	
AN ALTERNATIVE DERIVATION OF GENERALIZED LIKELIHOOD TESTS FOR TRACK-TO-TRACK CORRELATION	1163
<i>Terrence L. Ogle ; Peter Willett</i>	

LARGE-SCALE MULTI-DIMENSIONAL ASSIGNMENT: PROBLEM FORMULATIONS AND GPU ACCELERATED SOLUTIONS	1170
<i>Olivia Reynen ; Samhita Vadrevu ; Rakesh Nagi ; Keith Legrand</i>	
A MAXIMUM LIKELIHOOD APPROACH TO JOINT GROUPWISE IMAGE REGISTRATION AND FUSION BY A STUDENT-T MIXTURE MODEL	1178
<i>Hao Zhu ; Chunxia Tang ; Allan De Freitas ; Lyudmila Mihaylova</i>	
AUTONOMOUS HEART RATE TRACKING METHODOLOGY USING KALMAN FILTER AND THE EM ALGORITHM	1185
<i>Thiago T. Souza ; Balakumar Balasingam ; Roman Maev</i>	
FOURIER SUBSPACE PRESERVING PARTICLE FILTER (POSTER)	1193
<i>Christopher Thron ; Khoi Tran</i>	
IMPROVED COVARIANCE MATRIX ESTIMATORS BY MULTI-PENALTY REGULARIZATION	1199
<i>Bin Zhang ; Jie Zhou ; Jianbo Li</i>	
NORMAL-GAMMA IMM FILTER FOR LINEAR SYSTEMS WITH NON-GAUSSIAN MEASUREMENT NOISE	1206
<i>Le Zhang ; Jian Lan ; X. Rong Li</i>	
ADAPTIVE APPROXIMATE BAYESIAN COMPUTATIONAL PARTICLE FILTERS FOR UNDERWATER TERRAIN AIDED NAVIGATION	1214
<i>Camille Palmier ; Karim Dahia ; Nicolas Merlinge ; Pierre Del Moral ; Dann Laneuville ; Christian Musso</i>	
NONLINEAR STATE ESTIMATION USING SKEW-SYMMETRIC REPRESENTATION OF DISTRIBUTIONS	1222
<i>Haozhan Meng ; X. Rong Li ; Vesselin P. Jilkov</i>	
SUPPORTING USER FUSION OF AI SERVICES THROUGH CONVERSATIONAL EXPLANATIONS	1230
<i>Dave Braines ; Richard Tomsett ; Alun Preece</i>	
CONSISTENT DISTRIBUTED TRACK FUSION UNDER COMMUNICATION CONSTRAINTS	1238
<i>Robin Forsling ; Zoran Sjanic ; Fredrik Gustafsson ; Gustaf Hendeby</i>	
JOINT AXIS ESTIMATION FOR FAST AND SLOW MOVEMENTS USING WEIGHTED GYROSCOPE AND ACCELERATION CONSTRAINTS	1246
<i>Fredrik Olsson ; Thomas Seel ; Dustin Lehmann ; Kjartan Halvorsen</i>	
SOME INEQUALITIES BETWEEN PAIRS OF MARGINAL AND JOINT BAYESIAN LOWER BOUNDS	1254
<i>Lucien Bacharach ; Eric Chaumette ; Carsten Fritsche ; Umut Orguner</i>	
HUMAN ACTION RECOGNITION BASED ON MULTI-MODE SPATIAL-TEMPORAL FEATURE FUSION	1262
<i>Dongli Wang ; Jun Yang ; Yan Zhou</i>	
SENSOR COMBINATIONS IN HETEROGENEOUS MULTI-SENSOR FUSION FOR MARITIME TARGET TRACKING	1269
<i>Øystein Kaarstad Helgesen ; Edmund Førland Brekke ; Håkon Hagen Helgesen ; Øystein Engelhardtzen</i>	
TRACK-BEFORE-DETECT STRATEGY FOR RADAR DETECTION IN RAYLEIGH-DISTRIBUTED NOISE	1278
<i>Liangliang Wang ; Gongjian Zhou ; Jiazhou He ; Thiagalingam Kirubarajan</i>	
IMPROVING MAJORITY-GUIDED FUZZY INFORMATION FUSION FOR INDUSTRY 4.0 CONDITION MONITORING	1285
<i>Christoph-Alexander Holst ; Volker Lohweg</i>	
DIVERS TRACKING WITH IMPROVED GAUSSIAN MIXTURE PROBABILITY HYPOTHESIS DENSITY FILTER	1293
<i>Ben Liu ; Ratnasingham Tharmarasa ; Simon Hallé ; Rahim Jassemi ; Mihai Florea ; Thia Kirubarajan</i>	
A LATENT VARIABLE MODEL STATE ESTIMATION SYSTEM FOR IMAGE SEQUENCES	1299
<i>Nils Kornfeld ; Zachary Feng</i>	
A MACHINE LEARNING TASK SELECTION METHOD FOR RADAR RESOURCE MANAGEMENT (POSTER)	1307
<i>Zhen Qu ; Zhen Ding ; Peter Moo</i>	
OPTIMAL BALANCING OF MULTI-FUNCTION RADAR BUDGET FOR MULTI-TARGET TRACKING USING LAGRANGIAN RELAXATION	1313
<i>Max Ian Schöpe ; Hans Driessen ; Alexander Yarovoy</i>	
PARSIMONIOUS VEHICLE LOCALIZATION ARCHITECTURE USING A GENERIC TOP-DOWN FUSION PROCESS	1321
<i>Maroua Ladhari ; Roland Chapuis ; Romuald Aufrère ; Christophe Debain ; Laurent Malaterre</i>	
MIXED OPEN-AND-CLOSED LOOP SATELLITE TASK PLANNING	1329
<i>Ratnasingham Tharmarasa ; Thia Kirubarajan ; Jean Berger ; Mihai Cristian Florea</i>	

SENSOR DATA PREDICTION TECHNIQUES FOR NODES IN IOT (POSTER)	1337
<i>Luis Filipe Kopp ; Gabriel Martins ; Claudio M. De Farias ; Priscila M. V. Lima ; Luiz F. R. C. Carmo</i>	
DECENTRALIZED MULTI-TARGET TRACKING IN URBAN ENVIRONMENTS: OVERVIEW AND CHALLENGES	1343
<i>Donald J. Bucci ; Pramod K. Varshney</i>	
USING TRUSTED NETWORKS TO DETECT ANOMALY NODES IN INTERNET OF THINGS	1351
<i>Beatriz De A. Campos ; Claudio M. De Farias ; Luiz F. R. C. Carmo</i>	
DUAL STREAM SPATIO-TEMPORAL MOTION FUSION WITH SELF-ATTENTION FOR ACTION RECOGNITION	1359
<i>Md Asif Jalal ; Waqas Aftab ; Roger K Moore ; Lyudmila Mihaylova</i>	
ONLINE VIDEO ANOMALY DETECTION METHODOLOGY WITH HIGHLY DESCRIPTIVE FEATURE SETS	1366
<i>Abbas Mahbod ; Henry Leung</i>	
RELEVANCE AND IMPORTANCE IN DEEP LEARNING FOR OPEN SOURCE DATA PROCESSING TO ENHANCE CONTEXT	1373
<i>Moslem Ouled Sghaier ; Melita Hadzagic ; Julian Falardeau ; Nathan Kashyap</i>	
AN END-TO-END DEEP NEURAL NETWORK FOR FACIAL EMOTION CLASSIFICATION	1381
<i>Md Asif Jalal ; Lyudmila Mihaylova ; Roger K Moore</i>	
PEDESTRIAN TRACKING BY PROBABILISTIC DATA ASSOCIATION AND CORRESPONDENCE EMBEDDINGS	1388
<i>Borna Bicanic ; Marin Oršic ; Ivan Markovic ; Siniša Šegvic ; Ivan Petrovic</i>	
CLOSED-LOOP MULTI-SATELLITE SCHEDULING BASED ON HIERARCHICAL MDP	1394
<i>Ratnasingham Tharmarasa ; Abhijit Chatterjee ; Yinghui Wang ; Thia Kirubarajan ; Jean Berger ; Mihai Cristian Florea</i>	
EVALUATION OF LABELING UNCERTAINTY IN MULTIPLE TARGET TRACKING WITH TRACK-BEFORE-DETECT RADARS	1401
<i>Carlos Moreno Leon ; Hans Driessen</i>	
COGNITIVE RADAR TRACKING PERFORMANCE ENHANCEMENT VIA WAVEFORM OPTIMIZATION	1409
<i>Abdessattar Hayouni ; Henry Leung ; Zhen Ding</i>	
ENGINEERING FOR EMERGENCE IN INFORMATION FUSION SYSTEMS: A REVIEW OF SOME CHALLENGES	1417
<i>Ali K. Raz ; James Llinas ; Ranjeev Mittu ; William Lawless</i>	
MULTISENSOR JIFI TRACKING OF EXTENDED OBJECTS	1425
<i>R. Blair Angle ; Roy L. Streit</i>	
USER-SPECIFIED OPTIMIZATION BASED TRANSFORMATION OF FUZZY MEMBERSHIP INTO BASIC BELIEF ASSIGNMENT	1433
<i>Xiaojing Fan ; Deqiang Han ; Jean Dezert ; Yi Yang</i>	
COOPERATIVE SEMI-SUPERVISED REGRESSION ALGORITHM BASED ON BELIEF FUNCTIONS THEORY	1441
<i>Hongshun He ; Deqiang Han ; Yi Yang</i>	
FUSION WITHIN A DETECTION SYSTEM FAMILY	1447
<i>Mark E. Oxley ; Christine M. Schubert Kabban</i>	
SITUATIONAL AWARENESS WITH UBIQUITOUS SENSING: THE CASE OF ROBUST DETECTION AND CLASSIFICATION OF TARGETS IN CLOSE PROXIMITY	1455
<i>Varun K. Garg ; Brooks P. Saunders ; Thanuka L. Wickramaratne</i>	
TARGET LOCALIZATION USING MOBILE SENSORS AND A DECENTRALIZED AND DISTRIBUTED VARIATIONAL ESTIMATOR	1463
<i>Amit K. Sanyal ; Hossein Eslamiat</i>	
DECENTRALIZED AND DISTRIBUTED ACTIVE FAULT DIAGNOSIS FOR STOCHASTIC SYSTEMS WITH INDIRECT OBSERVATIONS	1470
<i>Ondrej Straka ; Ivo Puncochár</i>	
EM-BASED EXTENDED TARGET TRACKING WITH AUTOMOTIVE RADAR USING LEARNED SPATIAL DISTRIBUTION MODELS	1478
<i>Hauke Kaulbersch ; Jens Honer ; Marcus Baum</i>	
COMPLEX SIGNAL DENOISING AND INTERFERENCE MITIGATION FOR AUTOMOTIVE RADAR USING CONVOLUTIONAL NEURAL NETWORKS	1486
<i>Johanna Rock ; Mate Toth ; Elmar Messner ; Paul Meissner ; Franz Pernkopf</i>	
NON-EUCLIDEAN KALMAN FILTERS FOR NONLINEAR MEASUREMENTS	1494
<i>Samuel Shapero ; P. A. Miceli</i>	

TRACK INITIATION IN THE PRESENCE OF MULTIPATH EFFECT AND REFLECTING POINT UNCERTAINTIES	1502
<i>Leilei Guo ; Jian Lan ; X. Rong Li</i>	
EXTENDED TARGET POISSON MULTI-BERNOULLI MIXTURE TRACKERS BASED ON SETS OF TRAJECTORIES	1510
<i>Yuxuan Xia ; Karl Granström ; Lennart Svensson ; Ángel F. García-Fernández ; Jason L. Williams</i>	
A MULTI-SENSOR SIMULATION ENVIRONMENT FOR AUTONOMOUS CARS	1518
<i>Rui Song ; Paul Horridge ; Simon Pemberton ; Jon Wetherall ; Simon Maskell ; Jason Ralph</i>	
RISK-AVERSION ADJUSTED PORTFOLIO OPTIMIZATION WITH PREDICTIVE MODELING	1525
<i>Ran Ji ; Kc Chang ; Zhenlong Jiang</i>	
ANOMALY DETECTION WITH PATTERN OF LIFE EXTRACTION FOR GMTI TRACKING	1533
<i>Tsa Chun Liu ; Ratnasingham Tharmarasa ; Simon Halle ; Mihai Florea ; Mike McDonald ; Thia Kirubarajan</i>	
TARGET LOCALIZATION AND SENSOR SYNCHRONIZATION IN THE PRESENCE OF DATA ASSOCIATION UNCERTAINTY	1541
<i>Tongyu Ge ; Ratnasingham Tharmarasa ; Bernard Lebel ; Mihai Florea ; Thiagalingam Kirubarajan</i>	
AUTOMATIC FUSION OF SATELLITE IMAGERY AND AIS DATA FOR VESSEL DETECTION	1547
<i>Aristides Miliotis ; Konstantina Bereta ; Konstantinos Chatzikokolakis ; Dimitris Zissis ; Stan Matwin</i>	
EFFICIENT POLLING ALGORITHMS USING FRIENDSHIP PARADOX AND BLACKWELL DOMINANCE	1554
<i>Stujay Bhatt ; Buddhika Nettasinghe ; Vikram Krishnamurthy</i>	
NONPARAMETRIC BAYESIAN METHODS AND THE DEPENDENT PITMAN-YOR PROCESS FOR MODELING EVOLUTION IN MULTIPLE OBJECT TRACKING	1562
<i>Bahman Moraffah ; Antonia Papandreou-Suppappola ; Muralidhar Rangaswamy</i>	
INTEGRATED LOCAL LINEARIZATION PARTICLE FILTER FOR MULTIPLE MANEUVERING TARGET TRACKING IN CLUTTER	1568
<i>Seung Hyo Park ; Taek Lyul Song ; Sa Yong Chong</i>	
ADAPTIVE BM3D ALGORITHM FOR IMAGE DENOISING USING COEFFICIENT OF VARIATION	1575
<i>Bing Song ; Zhansheng Duan ; Yongxin Gao ; Teng Shao</i>	
ITERATIVE PATH RECONSTRUCTION FOR LARGE-SCALE INERTIAL NAVIGATION ON SMARTPHONES	1583
<i>Santiago Cortés Reina ; Yuxin Hou ; Juho Kannala ; Arno Solin</i>	
FEATURE-AIDED MULTITARGET TRACKING FOR OPTICAL BELT SORTERS	1591
<i>Tobias Kronauer ; Florian Pfaff ; Benjamin Noack ; Wei Tiant ; Georg Maier ; Uwe D. Hanebeck</i>	
2.5D EVIDENTIAL GRIDS FOR DYNAMIC OBJECT DETECTION	1599
<i>Hind Laghmara ; Thomas Laurain ; Christophe Cudel ; Jean-Philippe Lauffenburger</i>	
ENHANCED DETECTION RELIABILITY FOR HUMAN TRACKING BASED VIDEO ANALYTICS	1606
<i>Zeyu Fu ; Xin Lai ; Syed Mohsen Naqvi</i>	
UNCERTAIN VISUAL TARGET TRACKING BY HIERARCHICAL COMBINATION OF MULTIPLE TARGET STATE SPACE MODEL AND SELF ORGANIZING MAP	1613
<i>Norikazu Ikoma</i>	
TRACK BASED UAV CLASSIFICATION USING SURVEILLANCE RADARS	1620
<i>Tevfik Bahadır Sarikaya ; Duygu Yumus ; Murat Efe ; Gökhan Soysal ; Thiagalingam Kirubarajan</i>	
ROTA: ROUND TRIP TIMES OF ARRIVAL FOR LOCALIZATION WITH UNSYNCHRONIZED RECEIVERS	1626
<i>Daniel Frisch ; Uwe D. Hanebeck</i>	
AN INFORMATION THEORETIC APPROACH FOR ASSESSING THE PERFORMANCE OF VEHICLE KINEMATIC TRACKING	1634
<i>Daniel Clarke ; Dennis Bruggner</i>	
ADAPTIVE DIFFUSION FOR DISTRIBUTED OPTIMIZATION OVER MULTI-AGENT NETWORK WITH RANDOM DELAYS (POSTER)	1641
<i>Yi Qiu ; Jie Zhou</i>	
HETEROGENEOUS TRACK-TO-TRACK FUSION IN 2D USING SONAR AND RADAR SENSORS	1647
<i>Mahendra Mallick ; Kuo-Chu Chang ; Sanjeev Arulampalam ; Yanjun Yan ; Barbara La Scala</i>	
FROM SOCIAL NETWORK GRAPHS TO CAUSAL BAYES NETS	1655
<i>Kenneth J. Hintz ; Andrew S. Hintz</i>	
MEASUREMENT OF LEVEL 5 FUSION WITH WORKLOAD CONSENSUS	1662
<i>Steven Horn ; Patricia Moorhead</i>	

OPTIMIZING MARITIME VESSEL SERVICE TIME WITH ADAPTIVE QUAY CRANE DEPLOYMENT THROUGH LEVEL 4 HARD-SOFT INFORMATION FUSION	1670
<i>Ashwin Panchapakesan ; Rami Abielmona ; Emil Petriu</i>	
SIMULATED EVALUATION OF UBIQUITOUS SENSED SITUATIONAL AWARENESS SYSTEMS.....	1678
<i>Brooks P. Saunders ; Varun K. Garg ; Thanuka L. Wickramaratne</i>	
DISTRIBUTIONAL MEMORY EXPLAINABLE WORD EMBEDDINGS IN CONTINUOUS SPACE	1685
<i>Lauro Snidaro ; Giovanni Ferrin ; Gian Luca Foresti</i>	
MEASURES OF NONLINEARITY AND NON-GAUSSIANITY IN ORBITAL UNCERTAINTY PROPAGATION	1692
<i>Jindrich Havlik ; Ondrej Straka</i>	
TRACKING THE PROGRESSION OF READING THROUGH EYE-GAZE MEASUREMENTS	1700
<i>Stephen Bottos ; Balakumar Balasingam</i>	
ON GNSS JAMMING THREAT FROM THE MARITIME NAVIGATION PERSPECTIVE	1708
<i>Daniel Medina ; Christoph Lass ; Emilio Pérez Marcos ; Ralf Ziebold ; Pau Closas ; Jesús García</i>	
PROBABILISTIC 3D POINT CLOUD FUSION ON GRAPHICS PROCESSORS FOR AUTOMOTIVE (POSTER).....	1715
<i>Nicolai Behmann ; Yihan Cheng ; Jens Schleusner ; Holger Blume</i>	
ASSESSMENT OF HIERARCHICAL MULTI-SENSOR MULTI-TARGET TRACK FUSION IN THE PRESENCE OF LARGE SENSOR BIASES	1721
<i>Terrence L. Ogle ; W. Dale Blair ; Benjamin J. Slocumb ; Darin T. Dunham</i>	
JUMP MARKOV NONLINEAR SYSTEM IDENTIFICATION FOR BEHAVIOR CLASSIFICATION IN MULTI-SENSOR TARGET TRACKING	1728
<i>Eduardo Richa ; Martin Podt ; Rienk Bakker ; Hans Driessen</i>	
GAUSSIAN MIXTURE FITTING FILTER FOR NON-GAUSSIAN MEASUREMENT ENVIRONMENT.....	1736
<i>Haoran Cui ; Xiaoxu Wang ; Yan Liang ; Quan Pan</i>	
USE OF HIERARCHICAL DIRICHLET PROCESSES TO INTEGRATE DEPENDENT OBSERVATIONS FROM MULTIPLE DISPARATE SENSORS FOR TRACKING	1743
<i>Bahman Moraffah ; Cesar Brito ; Bindya Venkatesh ; Antonia Papandreou-Suppappola</i>	
INFORMATION FUSION AND IMAGE PROCESSING BASED ARC DETECTION AND LOCALIZATION IN PANTOGRAPH-CATENARY SYSTEMS	1750
<i>Poyan Lu ; Changfan Huo ; Wangwang Duan ; Jianyong Ai ; Haifeng Jin ; Lijun Jin</i>	
ROBUST FACE AUTHENTICATION BASED ON DYNAMIC QUALITY-WEIGHTED COMPARISON OF VISIBLE AND THERMAL-TO-VISIBLE IMAGES TO VISIBLE ENROLLMENTS	1758
<i>Khawla Mallat ; Naser Damer ; Fadi Boutros ; Jean-Luc Dugelay</i>	
AIS TRAJECTORY CLASSIFICATION BASED ON IMM DATA	1766
<i>Daniel Amigo Herrero ; David Sánchez Pedroche ; Jesús García Herrero ; José Manuel Molina López</i>	
A MULTI-DETECTOR SOLUTION TOWARDS AN ACCURATE AND GENERALIZED DETECTION OF FACE MORPHING ATTACKS	1774
<i>Naser Damer ; Steffen Zienert ; Yaza Wainakh ; Alexandra Moseguí Saladié ; Florian Kirchbuchner ; Arjan Kuijper</i>	
EXPLORING THE CHANNELS OF MULTIPLE COLOR SPACES FOR AGE AND GENDER ESTIMATION FROM FACE IMAGES.....	1782
<i>Fadi Boutros ; Naser Damer ; Philipp Terhörst ; Florian Kirchbuchner ; Arjan Kuijper</i>	
ACHIEVING CONSENSUS UNDER BOUNDED CONFIDENCE IN MULTI-AGENT DISTRIBUTED DECISION-MAKING	1790
<i>Ranga Dabarera ; Thanuka L. Wickramaratne ; Kamal Premaratne ; Manohar N. Murthi</i>	
DISTRIBUTED ESTIMATION USING SQUARE ROOT DECOMPOSITIONS OF DEPENDENT INFORMATION.....	1798
<i>Susanne Radtke ; Benjamin Noack ; Uwe D. Hanebeck</i>	
NONLINEAR DECENTRALIZED DATA FUSION WITH GENERALIZED INVERSE COVARIANCE INTERSECTION.....	1806
<i>Benjamin Noack ; Umut Orguner ; Uwe D. Hanebeck</i>	
HOUSES BOMBING IN RAVIXE: A BENCH FOR HIGH LEVEL FUSION EVALUATION	1813
<i>Nicolas Museux ; Claire Laudy ; Mihai Cristian Florea</i>	
DETECTION OF AIS SPOOFING IN FISHERY SCENARIOS	1820
<i>Max Krüger</i>	

INFORMATION MATRIX FUSION FOR NONLINEAR, ASYNCHRONOUS AND HETEROGENEOUS SYSTEMS	1827
<i>Kaipei Yang ; Yaakov Bar-Shalom ; Kuo-Chu Chang</i>	
TRACK-TO-TRACK FUSION WITH CROSS-COVARIANCES FROM RADAR AND IR/EO SENSOR	1833
<i>Kaipei Yang ; Yaakov Bar-Shalom ; Peter Willett</i>	
HYPERSPHERICAL DETERMINISTIC SAMPLING BASED ON RIEMANNIAN GEOMETRY FOR IMPROVED NONLINEAR BINGHAM FILTERING	1838
<i>Kailai Li ; Florian Pfaff ; Uwe D. Hanebeck</i>	
REFINED POSE ESTIMATION FOR SQUARE MARKERS USING SHAPE FITTING	1846
<i>Antonio Zea ; Uwe D. Hanebeck</i>	
GLOBAL OPTIMIZATION FOR RESOURCE ALLOCATION IN A NETWORKED-SURVEILLANCE RADAR	1854
<i>Allan De Freitas ; Richard W. Focke ; Conrad Beyers ; Pieter De Villiers</i>	
COURSA VENUE: INDOOR NAVIGATION PLATFORM USING FUSION OF INERTIAL SENSORS WITH MAGNETIC AND RADIO FINGERPRINTING	1862
<i>Gennadii Berkovich ; Dmitry Churikov ; Jacques Georgy ; Chris Goodall</i>	
INERTIAL MOTION CAPTURE USING ADAPTIVE SENSOR FUSION AND JOINT ANGLE DRIFT CORRECTION	1868
<i>Hammad Tanveer Butt ; Manthan Pancholi ; Mathias Musahl ; Pramod Murthy ; Maria Alejandra Sanchez ; Didier Stricker</i>	
STEREO VISUAL SLAM BASED ON UNSCENTED DUAL QUATERNION FILTERING	1876
<i>Simon Bultmann ; Kailai Li ; Uwe D. Hanebeck</i>	
TWO STREAM CONVOLUTIONAL NEURAL NETWORK FOR FULL FIELD OPTICAL COHERENCE TOMOGRAPHY FINGERPRINT RECOGNITION	1884
<i>Kiran B. Raja ; R. Raghavendra ; Egidijus Auksorius ; Claude Boccara ; Christoph Busch ; Norwegian Biometrics</i>	
MACHINE LEARNING-ENABLED ADAPTATION OF INFORMATION FUSION SOFTWARE SYSTEMS	1888
<i>Gerald Fry ; Tameem Samawi ; Kenny Lu ; Avi Pfeffer ; Curt Wu ; Steve Marotta ; Mike Reposo ; Stephen Chong</i>	
EFFICIENT NONLINEAR FILTERING OF MULTISCALE SYSTEMS WITH SPECIFIC STRUCTURE	1895
<i>Ryne Beeson ; N. Sri Namachchivaya</i>	
A DOMAIN MODEL FOR PERSONALIZED MONITORING SYSTEM BASED ON CONTEXT-AWARE DATA FUSION	1903
<i>Cristóvão Iglesias ; Claudio Miceli ; David Silva</i>	
FOURIER FILTERS, GRID FILTERS, AND THE FOURIER-INTERPRETED GRID FILTER	1911
<i>Florian Pfaff ; Kailai Li ; Uwe D. Hanebeck</i>	
QUALITY MEASURE AND OPTIMIZATION FOR GRID FLOW APPROACHES	1919
<i>Carolyn Kalender</i>	
FUSING ECONOMIC INDICATORS FOR PORTFOLIO OPTIMIZATION - A SIMULATION-BASED APPROACH	1927
<i>Jiayang Yu ; Tuan Le ; Kc Chang ; Sabyasachi Guharay</i>	
SCALABLE EVENT-TRIGGERED DATA FUSION FOR AUTONOMOUS COOPERATIVE SWARM LOCALIZATION	1935
<i>Ian Loefgren ; Nisar Ahmed ; Eric Frew ; Christoffer Heckman ; Sean Humbert</i>	
VISIBLE AND INFRARED IMAGE FUSION FRAMEWORK BASED ON RETINANET FOR MARINE ENVIRONMENT	1943
<i>Fahimeh Farahnakian ; Jussi Poikonen ; Markus Laurinen ; Dimitrios Makris ; Jukka Heikkonen</i>	
COLLABORATIVE SEMANTIC DATA FUSION WITH DYNAMICALLY OBSERVABLE DECISION PROCESSES	1950
<i>Luke Burks ; Nisar Ahmed</i>	
REAL-TIME SHIP TRACK ASSOCIATION: A BENCHMARK AND A NETWORK-BASED METHOD	1958
<i>Lin Wu ; Yongjun Xu ; Fei Wang ; Qiang Lu ; Miao Hu</i>	
HYPERBOLIC VEHICLE LOCALIZATION USING A SINGLE SIGNAL OF OPPORTUNITY AND TRAJECTORY CONSTRAINTS	1966
<i>Benjamin Siebler ; Martin Schmidhammer ; Stephan Sand</i>	
UNCERTAINTY-BASED DECISION MAKING USING DEEP REINFORCEMENT LEARNING	1973
<i>Xujiang Zhao ; Shu Hu ; Jin-Hee Cho ; Feng Chen</i>	
ASSESSING SITUATION AWARENESS ON FUSION-DRIVEN EMERGENCY MANAGEMENT SYSTEMS	1981
<i>Leonardo C. Botega ; Gustavo M. C. Pereira ; Valdir A. P. Junior ; Allan C. M. De Oliveira</i>	

INCORPORATING AIRCRAFT KINEMATICS AND RADAR CROSS SECTION INTO THE PERFORMANCE PREDICTION OF AIR SURVEILLANCE	1989
<i>Juha Jylhä ; Marja Ruotsalainen ; Minna Väilä ; Henna Perälä</i>	
COMPARISON OF LINEAR FILTERS IN THE PRESENCE OF BIASED MEASUREMENTS	1997
<i>P. A. Miceli ; W. Dale Blair</i>	
MULTIPLE HYPOTHESIS TRACKING FOR PROCESSING TRACKLETS	2007
<i>Chee-Yee Chong ; Shozo Mori</i>	
DYNAMIC TARGET DRIVEN TRAJECTORY PLANNING USING RRT	2015
<i>Simon Williams ; Xuezhi Wang ; Daniel Angley ; Christopher Gilliam ; Bill Moran ; Richard Ellem ; Trevor Jackson ; Amanda Bessell</i>	
GOSSIP-BASED DISTRIBUTED FILTERING OVER NETWORKS USING PROJECTION	2023
<i>Chao Wan ; Yongxin Gao ; X. Rong Li</i>	
HIGH-ACCURACY PARALLEL TWO-STAGE ESTIMATOR FOR GENERALIZED BIAS OF MICRO SENSOR WITH UNKNOWN INPUT	2031
<i>Jie Zhou ; Song Gao ; Qiang Shen ; Yu Li ; Chaobo Chen</i>	
MULTI-AGENT SYSTEM FOR THREAT ASSESSMENT AND ACTION SELECTION UNDER UNCERTAINTY AND AMBIGUITY	2036
<i>Galina L. Rogova ; Roman Ilin</i>	
RESILIENT COLLABORATIVE INTELLIGENCE FOR ADVERSARIAL IOT ENVIRONMENTS	2044
<i>Dulanga Weerakoon ; Kasthuri Jayarajah ; Randy Tandriansyah ; Archan Misra</i>	
DOMAIN SPECIFIC FUSION OF UNSTRUCTURED TEXT FOR SITUATION UNDERSTANDING (POSTER)	2052
<i>Éric-Olivier Bossé ; Julian Falardeau ; Isabelle Prévost ; Elisa Shahbazian ; Olivier Labonté</i>	
ITERATIVE NONLINEAR KALMAN FILTERING VIA VARIATIONAL EVIDENCE LOWER BOUND MAXIMIZATION	2058
<i>Yumei Hu ; Quan Pan ; Zhen Guo ; Zhiyuan Shi ; Zhentao Hu</i>	
POOLING TWEETS BY FINE-GRAINED EMOTIONS TO UNCOVER TOPIC TRENDS IN SOCIAL MEDIA	2064
<i>Annika Schoene ; Geeth De Mel</i>	
MULTIPLE MODEL BLE-BASED TRACKING VIA VALIDATION OF RSSI FLUCTUATIONS UNDER DIFFERENT CONDITIONS	2071
<i>Mohammadamin Atashi ; Mohammad Salimibeni ; Parvin Malekzadeh ; Mihai Barbulescu ; Konstantinos N. Plataniotis ; Arash Mohammadi</i>	
FLEXIBLE EXPECTED SHORTFALL ESTIMATION USING PARAMETRIC & NON-PARAMETRIC METHODS WITH APPLICATIONS IN FINANCE, INSURANCE & CLIMATOLOGY	2077
<i>Sabyasachi Guharay ; Kc Chang ; Jie Xu</i>	
PERFORMANCE OF THE NCV KALMAN FILTER WITH ECAE FOR TRACKING MANEUVERING TARGETS	2085
<i>W. D. Blair</i>	
DISTRIBUTION-DEPENDENT DISTANCE OF FIRST TWO MOMENTS	2094
<i>X. Rong Li</i>	
PARTICLE GAUSSIAN MIXTURE FILTERS: APPLICATION AND PERFORMANCE EVALUATION	2102
<i>Dilshad Raihan ; Suman Chakravorty</i>	
SENSOR SCHEDULING UNDER ACTION DEPENDENT DECISION-MAKING EPOCHS	2110
<i>Dilshad Raihan ; Weston Faber ; Suman Chakravorty ; Islam I. Hussein</i>	
ONLINE LEARNING TECHNIQUES FOR SPACE SITUATIONAL AWARENESS (POSTER)	2117
<i>Ashton E. Harvey ; Kathryn B. Laskey</i>	
UNSUPERVISED BAYESIAN ESTIMATION AND TRACKING OF TIME-VARYING CONVOLUTIVE MULTICHANNEL SYSTEMS	2124
<i>Herbert Buchner ; Karim Helwani ; Simon Godsill</i>	
Author Index	