

2012 Workshop on Sensor Data Fusion: Trends, Solutions, Applications

(SDF 2012)

**Bonn, Germany
4-6 September 2012**



**IEEE Catalog Number: CFP1279T-PRT
ISBN: 978-1-4673-3010-7**

Table of Contents

<u>Title</u>	<u>Authors</u>	<u>Page</u>
Simultaneous Localization and Mapping for Non-parametric Potential Field Environments	James Murphy; Simon Godsill	1
Track Maintenance Using the SMC-Intensity Filter	Christoph Degen; Felix Govaers; Wolfgang Koch	7
A Particle Filter for Target Arrival Detection and Tracking in Track-Before-Detect	Alexandre Lepoutre; Olivier Rabaste; François Le Gland	13
On the Performance of the Box Particle Filter for Extended Object Tracking Using Laser Data	Nikolay Petrov; Martin Ulmke; Lyudmila Mihaylova; Amadou Gning; Marek Schikora; Monika Wieneke; Wolfgang Koch	19
Calibration of Tracking Systems Using Detections From Non-Cooperative Targets	Branko Ristic; Daniel Clark; Neil Gordon	25
A Probabilistic Hypothesis Density Filter for Traffic Flow Estimation in the Presence of Clutter	Matthieu Canaud; Lyudmila Mihaylova; Nour-Eddin El Faouzi; Romain Billot; Jacques Sau	31
Ground Moving Target Tracking Using Signal Strength Measurements with the GM-CPHD Filter	Michael Mertens; Martin Ulmke	37
Traffic Mapping Filters for Multisensor Fields	Roy Streit	43
Creating a Likelihood Vector for Ground Moving Targets in the Exo-Clutter Region of Airborne Radar Signals	Dieter Nagel	49
Finding Sensor Trajectories for TDOA Based Localization - Preliminary Considerations	Regina Kaune	55
Track Segment Association with Classification Information	Benjamin Pannetier; Jean Dezert	60
Towards an Online, Adaptive Algorithm for Radar Surveillance Control	Fotios Katsilieris; Alexander Charlish; Yvo Boers	66
Wi-Fi Azimuth and Position Tracking Using Directional Received Signal Strength Measurements	Jochen Seitz; Thorsten Vaupel; Stephan Haimerl; Javier Gutiérrez Boronat; Jörn Thielecke	72
Distributed Time and Frequency Difference of Arrival Tracking in Clutter	Darko Musicki; Taek-Lyul Song; Hyoung Won Kim	78
FDOA Determination of ADS-B Transponder Signals	Christian Steffes; Sven Rau	84
Multipath Detection in TDOA Localization Scenarios	Christian Steffes; Sven Rau	88

Target Maneuver Detection Using a Particle Filter with Spawn Model and Particle Labeling	Julian Hoerst	93
ISR Analytics: Architectural and Methodic Concepts	Jennifer Sander; Gerd Schneider; Barbara Essendorfer; Achim Kuwertz	99
Road Network Identification by Means of the Hough Transform	Eric Salerno; Tarunraj Singh; Puneet Singla; Maria Scalzo; Adnan Bubalo; Mark Alford; Eric Jones	105
DSO Cognitive Architecture in Mobile Surveillance	Gee Wah Ng; Yuan Sin Tan; Xuhong Xiao; Rui Zhong Chan	111
The JDL Model of Data Fusion Applied to Cyber-	Sabine Schreiber-Ehle	116