

Digital Avionics

Papers Presented at the AIAA SciTech Forum and
Exposition 2019

San Diego, California, USA
7 – 11 January 2019

ISBN: 978-1-5108-8406-9

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

The contents of this work are copyrighted and additional reproduction in whole or in part are expressly prohibited without the prior written permission of the Publisher or copyright holder. The resale of the entire proceeding as received from CURRAN is permitted.

For reprint permission, please contact AIAA's Business Manager, Technical Papers. Contact by phone at 703-264-7500; fax at 703-264-7551 or by mail at 34922 Uwytkug'Xcmg{'Ftkxg.'Uwky'422, Reston, VA 20191, USA.

TABLE OF CONTENTS

Fuel-Saving Climb Procedure by Reduced Thrust Near Top of Climb	1
<i>R. Mori</i>	
An Optimal Trajectory-based Trajectory Prediction Method for Automated Traffic Flow Management	9
<i>Akinori Harada, Noboru Takeichi, Koichi Oka</i>	
Separation Risk Evaluation for NextGen Air Traffic Management System	23
<i>Peng Zhao, Yongming Liu</i>	
Feasibility Study of Layered Air Corridor through Direct Operational Cost Evaluation	36
<i>Yasuo Morooka, Noboru Takeichi, Satoshi Yamamoto, Akinori Harada</i>	
Aircraft Operating Technique for Efficient Sequencing Arrival Enabling Environmental Benefits Through CDO in TMA	45
<i>Angela Errico, Vittorio Di Vito</i>	
A Methodology for Wake Turbulence Categorization of New Large Aircraft Types Combining LiDAR, RADAR and Wind Tunnel Data with Numerical Simulation and Manufacturer’s Data	57
<i>Ivan De Visscher, Andreas Reinke, Ulrich Scholz</i>	
Development of an Algorithm to Determine the Attention Required by Aircraft Under Control Using Fuzzy Logic	68
<i>Kevin Capiot, Bernd Korn, Max Mulder</i>	
Robust Optimal Guidance Algorithm for Required Time of Arrival Operations Using Probabilistic Weather Forecasts	84
<i>Yoshinori Matsuno, Ryota Kikuchi, Naoki Matayoshi</i>	
Risk-hedged Multistage Stochastic Programming Model for Setting Flow Rates in Collaborative Trajectory Options Programs (CTOP)	96
<i>Guodong Zhu, Peng Wei, Robert Hoffman, Bert Hackney</i>	
Vision-Augmented Automatic Landing of a General Aviation Fly-by-Wire Demonstrator	112
<i>Martin E. Kugler, Nils C. Mumm, Florian Holzapfel, Alexander Schwithal, Maik Angermann</i>	
Author Index	