

2020 New Trends in Civil Aviation (NTCA 2020)

**Prague, Czech Republic
23 – 24 November 2020**



**IEEE Catalog Number: CFP20X37-POD
ISBN: 978-1-7281-6692-6**

**Copyright © 2020, Czech Technical University in Prague
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: | CFP20X37-POD |
| ISBN (Print-On-Demand): | 978-1-7281-6692-6 |
| ISBN (Online): | 978-80-01-06727-7 |

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

| | |
|---|----|
| Preface | 5 |
| Committees | 7 |
| Recognition of GNSS Jamming Patterns in ADS-B Data <i>P. Lukeš, T. Topková, T. Vlček, S. Pleninger</i> | 9 |
| Traffic Collision Avoidance System: Threat Actor Model and Attack Taxonomy <i>J. Hannah, R. Mills, R. Dill</i> | 17 |
| PIV Investigation of UAV Rotor in Hover <i>F. Panayotov, V. Serbezov, I. Dobrev, M. Todorov</i> | 27 |
| Applying Distilled BERT for Question Answering on ASRS Reports <i>S. Kierszbaum, L. Lapasset</i> | 33 |
| Automation of Aircraft Movements Recording at Prague Letnany Airport <i>J. Nosek, T. Topková</i> | 39 |
| Unmanned Aerial Vehicles and Their Use for Aircraft Inspection <i>M. Bugaj, A. Novák, A. Stelmach, T. Lusiak</i> | 45 |
| Design of a Flight Instrument for Early Identification of Local Atmospheric Changes in the Operating Conditions of Glider <i>P. Pecho, M. Jarošová, R. Dvorský, I. Škvareková, V. Ažaltovič</i> | 51 |
| Impacts of Neglecting Atmospheric Conditions on Aircraft Noise Monitoring <i>I. Kameníková, T. Hejzlar</i> | 57 |
| Impact of SUAS Equipped with ADS-B on 1090MHz Environment <i>P. Jonáš, M. Jančík, Š. Holoda, J. Bodart</i> | 63 |
| Benefit of New EASA Part M-Light <i>M. Šplíchal, J. Chlebek</i> | 69 |
| Procedures for Prevention of Unauthorized Incursion into UAS Geographical Zones <i>A. Kleczatský, Š. Hulínská, J. Kraus</i> | 75 |
| Systemic Safety Data Collection and Processing in Aviation Maintenance <i>N. Guskova, A. Lališ, K. Grötschelová</i> | 81 |

| | |
|--|-----|
| Functional Resonance of the Airport Passengers Security Check <i>J. Havlíček, A. Lališ, R. Vokáč</i> | 89 |
| Effect of Air Operation Interruption on the Development of Reported Events <i>V. Plos, J. Chlebek</i> | 95 |
| Pneumatic System Reliability Assessment for B737NG Operators <i>K. Mündel, A. Lališ, O. Štumbauer</i> | 99 |
| Appropriateness of the Existing Airport Data Sources for Setting of the Safety Control Structure in SMS <i>S. Stojíć, L. Kurzweil, V. Řehoř</i> | 105 |
| Subjective Evaluation of Fatigue in Pilots During 24-hour Testing <i>L. Hanáková, V. Socha, J. Bořil, L. Herman, J. Štrobl, T. Pilmanová</i> | 111 |
| Black Hole Approach: A Systematic Review <i>V. Socha, L. Karapetjan, J. Bořil, L. Hanáková, L. Socha, T. Havel</i> | 117 |
| Jamming of GNSS Receiver on B737 MAX Aircraft and Its Impact on ADS-B Technology <i>S. Pleninger, J. Hospodka, T. Pilmanová, T. Topková, P. Lukeš, J. Steiner, J. Kraus</i> | 123 |
| Validation of the Manual Indoor UAV Flying Characteristics Methodology <i>S. Kušmírek, V. Socha, L. Hanáková, K. Hylmar, R. Matyáš, P. Kubový</i> | 129 |
| Portable Reaction Time Measurement Device: Prototype Proposal and Validation <i>V. Socha, S. Kušmírek, L. Hanáková, P. Olexa, J. Šimerka</i> | 135 |
| Stressful Situations in the Work of the Airport Dispatcher <i>L. Socha, M. Liptáková, P. Hanák, P. Čekan, J. Nosek, F. Priganc</i> | 139 |
| Author Index | 145 |