

# **2024 IEEE International Conference on Aerospace and Signal Processing (INCAS 2024)**

**Cusco, Peru  
28-30 November 2024**



**IEEE Catalog Number: CFP24N14-POD  
ISBN: 979-8-3315-3424-0**

**Copyright © 2024 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. 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:    | CFP24N14-POD      |
| ISBN (Print-On-Demand): | 979-8-3315-3424-0 |
| ISBN (Online):          | 979-8-3315-3423-3 |

**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](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

# TABLE OF CONTENTS

|                                                                                                                                                       |    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------|----|
| Secure Remote ID and Detect-and-Avoid in Unmanned Aerial Systems: Modeling the Maximum Safe Speed .....                                               | 1  |
| <i>Arvid Attin, Simon Bonnedahl, Zelong Wang, Mariusz Wzorek, Anastasia Lemetti, Andrei Gurtov</i>                                                    |    |
| Trajectory Simulation of a Parafoil System with a Ground Launch Device with Negligible Mass Based on Sideslip Angle Estimation with PID Control ..... | 7  |
| <i>Luis A. Moreno, Marco R. Adriano, Katherine R. Meza, Juan V. Orellana, Felixjesus R. Tarazona, Roxana P. Alta</i>                                  |    |
| MK-Sat: Design and Implementation of CanSat as Planetary Probe Lander .....                                                                           | 12 |
| <i>Luis S. C. Fritas, Dario A. H. Paredes, Jose L. B. Segura, Javier R. M. Huaman, Jose G. B. Galvan, Diego M. A. Cigüeñas</i>                        |    |
| Preliminary Design of the Communications Subsystem for the Chasqui II Cubesat Mission.....                                                            | 18 |
| <i>Gabriel U. F. Castañeda, José D. H. Honorio, Leo D. C. Cabrera, Elian S. R. Melgarejo</i>                                                          |    |
| Trust-Based Collision Avoidance for Unmanned Aircraft Systems.....                                                                                    | 23 |
| <i>Ernst Larsson-Kapp, Ville Kniivilä, Zelong Wang, Mariusz Wzorek, Anastasia Lemetti, Andrei Gurtov</i>                                              |    |
| An Adaptive Approach for Satellite Inertia Tensor Estimation Applied to Air-Bearing Test-Beds .....                                                   | 29 |
| <i>B. Espinoza-Garcia, Alfredo Mamani-Saico, Pablo R. Yanyachi</i>                                                                                    |    |
| Comparative Study of Active Power Filters with Least Mean Square Algorithm and Conventional Strategy in Discrete-Time Domain.....                     | 35 |
| <i>I. Delgado, G. R. V Ponce, Susan Machaca, Ester Mendoza, Eyner Calcina</i>                                                                         |    |
| Improving CubeSat Attitude Tracking using MRAC for Reaction Wheel Speed with Self-Balancing Testbed Validation .....                                  | 41 |
| <i>Erick P. M. Pumacota, Josue M. P. Contreras, Eber H. Cayo</i>                                                                                      |    |
| Control Testing and Characterization of a Reaction Wheel for an ADCS Module.....                                                                      | 47 |
| <i>Pablo R. Yanyachi, Alfredo Mamani-Saico, B. Espinoza-Garcia</i>                                                                                    |    |

## Author Index