

2025 Joint Conference on Electrostatics (ESA 2025)

**St. Catharines, Ontario, Canada
22-26 June 2025**



**IEEE Catalog Number: CFP25F19-POD
ISBN: 979-8-3315-3904-7**

**Copyright © 2025 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:	CFP25F19-POD
ISBN (Print-On-Demand):	979-8-3315-3904-7
ISBN (Online):	979-8-3315-3903-0

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

Tribo-Charging Characteristics of Poly-Styrene with Varying BFR Concentrations in View of Electrostatic Separation from Mixed Granular Waste Plastics	1
<i>Aadya Mohan Saini, D. Shakthi Prasad, Thami Zeghloul, Lucian Dascalescu</i>	
Application of a Two-Stage Brush-Type Electrostatic Precipitator for Particulate Matter Removal in a Subway Tunnel	5
<i>Gwangtaek Lee, Kabin Kang, Bangwoo Han, Hak Joon Kim</i>	
Recovery of Brominated Flame Retardant Plastics from Waste Electrical and Electronic Equipment (WEEE) Mixtures Using the Tribo-Electrostatic Separation Process.....	11
<i>Siham Labiod, Thami Zeghloul, Mohamed Sofiane Bendilmi, Farida Tomasella, Arnaud Parenty, Lucien Dascalescu</i>	
Parametric Study on the Performance of Dielectric Barrier Discharge Plasma Actuator	16
<i>S. C. Lin, M.-H. Kao, F. C. Lai</i>	
Stabilizing the Cone-Jet Mode in Electrospray Through Ground Current Monitoring	23
<i>Nihal Walia, S. Rahman Pejman, Jonathan P. Singer</i>	
Impact of Wide-Bandgap Devices on Turn-To-Turn Insulation Performance in Hairpin Windings for Electric Vehicle Traction Motors	28
<i>Ali Kholgh Khiz, Shesha H. Jayaram</i>	
Assessing High-Voltage PWM-Induced Degradation of FR4 PCBs in Aircraft Applications.....	32
<i>Kranthi Panuganti, Sheron Figarado, D. Shakthi Prasad, Sheshakamal Jayaram</i>	
The Effect of Hydrophilic Collecting Plate in an Electrostatic Precipitator on the Removal of White Smoke Under High Flow Velocity Condition.....	36
<i>Kabin Kang, Gwangtaek Lee, Yusom Choi, Bangwoo Han, Hak Joon Kim</i>	
Impact of Bipolar Corona Charger Parameters on Electrostatic Charging of Polydisperse Aerosols.....	40
<i>Mohamed Akram Sayoud, Nouredine Zouzou</i>	
Triboelectric Charging of Model Granular Polymers Before and After Exposure to an Atmospheric DBD Plasma	44
<i>Badreddine Settaf, Zehira Ziari, Thami Zeghloul, Lucien Dascalescu</i>	
Numerical Investigation of Electrical Coalescence Between Droplets and Water Layer in DC and AC Electric Fields	48
<i>Iliia Elagin, Grigorii Yagodin, Vladimir Chirkov</i>	
Continuous Operation of a Tribo-Electrostatic Separator for the Recovery of PET Fibers from Industrial Wastes.....	53
<i>Imed-Eddine Achouri, Thami Zeghloul, Thomas Simonelli, Lucian Dascalescu</i>	
Influence of High-Voltage Electrode Shape on Granular Metal Particle Trajectories in a Roll-Type Electrostatic Separator.....	57
<i>Hakim Moulai, Thami Zeghloul, Nouredine Menad, Lucian Dascalescu</i>	
Surface Material Dependence in Powder Triboelectric Charging	61
<i>Tom F. O'Hara, Ellen Player, Graham Ackroyd, Peter J. Caine, Karen L. Aplin</i>	

Author Index