Special Issue

Dielectric Barrier Discharge Plasma Actuators for Thermo-Fluid Dynamics Applications

Message from the Guest Editors

In the current Special Issue, we aim to collect innovative experimental, numerical or theoretical studies on dielectric barrier discharge plasma actuators, including the physics behind their operation, thermal and/or aerodynamic performance improvements, new configurations and/or operation modes and novel possible applications. Additionally, we also welcome discussions of simultaneous ice prevention and flow control, ice sensing, development of durable dielectric materials for DBD, new experimental techniques or numerical methods for DBD analysis, etc.

- dielectric barrier discharge
- plasma actuators
- flow control
- heat transfer
- deicing
- ice sensing
- non-thermal plasma
- aeronautics
- wind power

Guest Editors

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Deadline for manuscript submissions

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About the Journal

Message from the Editorial Board

We are just entering the Next Wave of Technology (NWT) where actuators will play the same role as the computer chip did for computers/social media approximately four decades ago. Just in the U.S., production of $1 trillion year of electromechanical systems (vehicles, orthotics, manufacturing cells, freight trains, aircraft, etc.) will be impacted by the NWT, all driven by actuators. Five key trends can be found for the future perspectives: “Performance to Reliability”, “Hard to Soft”, “Macro to Nano”, “Homo to Hetero” and “Single to Multi functional”. We invite papers that primarily impact these economic sectors; those illustrating basic scientific principles are also welcome.

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