



Microwave Plasma Processing of Materials

Guest Editors:

Prof. Dr. Paolo Veronesi

Enzo Ferrari Department of
Engineering, University of
Modena and Reggio Emilia, Via P.
Vivarelli 10, 41125 Modena, Italy

Dr. Marilena Radoiu

Microwave Technologies
Consulting, Lyon, France

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Message from the Guest Editors

Dear Colleagues,

This Special Issue will gather contributions from the 16th AMPERE conference in Delft (2017), centered on microwave plasmas, involving both the processing of materials and new plasma sources. The advantage of using microwaves for plasma generation lies in the higher degrees of ionization and dissociation that can be obtained, compared to other types of electrical excitation. This can be used proficiently to reduce activation energy and to enhance reaction kinetics. Moreover, compared to conventional thermal plasmas or standard thermal reactions, lower temperatures can be achieved, with important consequences on the energy efficiency and yield of processes, as well as on the microstructure of resulting products. The topic of microwave plasmas is an interdisciplinary one, which includes fields of science, engineering, and technology, with important contributions from chemistry, physics, materials science and microwave technology. The latter becomes more and more relevant when considering the advent of new high-power microwave solid-state generators, implementing new control strategies to further optimize plasma generation, both in continuous or pulsed mode.





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Editor-in-Chief

Prof. Dr. Manoj Gupta

Department of Mechanical
Engineering, National University
of Singapore, Singapore 117576,
Singapore

Message from the Editor-in-Chief

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Technologies Editorial Office
MDPI, Grosspeteranlage 5
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