



materials



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Frontiers Research of Cavitation on Extended Surfaces

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Message from the Guest Editor

Dear Colleagues,

Cavitation deals with the nucleation, growth, and rapid implosive collapse of gas and vapor-filled microbubbles in a liquid subjected to depression. This phenomenon has different origins, including, for instance, acoustic, hydrodynamic, and optical cavitation. While cavitation can generate unwanted harmful conditions in some cases (e.g., hydraulic machineries), the extreme conditions generated at collapse may offer a potentially interesting alternative for surface treatment while providing specific chemical and/or physical effects. Examples taken from recent literature indeed describe the use of cavitation for the fragmentation and erosion of solid particles, dissolution of refractory materials, depassivation of metallic surfaces, functionalization of material surfaces, decontamination or structuring of materials, cleaning and disinfection of surfaces, etc. This Special Issue aims at gathering recent advances dealing with cavitation-induced surface treatment from the fundamental exploration of the mechanisms involved at the interface to surface manipulation, including interesting applications and innovations.



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Special Issue



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Message from the Editor-in-Chief

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