

Abstract Submitted
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Challenges of Low Temperature Plasma-Surface Interactions

DAVID GRAVES, UC Berkeley — Low temperature plasma-surface interactions are characterized by complex, coupled interactions of chemical, physical and material phenomena interacting over a wide range of time and length scales. Intriguingly, some of the same kinds of challenges exist in non-low temperature plasma applications, including fusion-wall interactions. In this talk, I will review some of the history of low temperature plasma-surface studies and suggest some grand challenges in this interdisciplinary field. Examples will be presented from plasma-semiconductor surface interactions with an industrial focus. The latest applications of low temperature plasma involve plasma-soft material interactions, in some cases including the presence of water. The developing field of low temperature plasma medicine includes plasma-living tissue interactions. Some of the unique challenges posed by this new field will be briefly addressed.

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