

P5.3016 Visualization of dissociative recombination of positive ions in surface dielectric barrier discharge

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See full abstract here <http://ocs.ciemat.es/EPS2019ABS/pdf/P5.3016.pdf>

To understand dissociative recombination (DR) of positive ions at plasma-metallic walls is a key to control plasmas in fusion edge plasma, material processing and plasma bio-medicine. Especially, a product of DR would generate ozone (O₃) as both positive effects (sterilization of germs) and negative effects (toxic to sensitive organs of human being) in plasma bio-medicine. DR has been verified in surface dielectric barrier discharge (SDBD) plasma generated by a sputtered-type flexible copper clad laminates (FCCL) Kapton ENA with thickness 25 and 150 μm, thickness of exposed electrode = 2 and 8.6 μm for the exposed electrode peak to peak voltage of 5 kV_{pp} and frequency of 16 kHz. An isotropic undercutting was observed by focused ion beam-scanning electron microscope (FIB-SEM), which seems to be caused by SDBD plasma etching on exposed metallic cathode surface.

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