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**Spectroscopic Investigations on OH Radicals Generated in He/Water and Air/Water Mixtures by an Atmospheric Pressure Surface Discharge Micro Plasma Device** KEN TAKIYAMA, Graduate School of Engineering, Hiroshima University, HIDEO NOJIMA, Digital Appliances Division, Samsung Electronics Co., Ltd. and Samsung Yokohama Research Institute, TSUYOSHI NOI, SINICHI NAMBA, TSUTOMU YAMASAKI, Graduate School of Engineering, Hiroshima University — We report the optical spectroscopic study on OH radicals generated by a surface discharge micro plasma device in atmospheric pressure He/water and air/water under the several experimental conditions. Strong emission bands of OH radicals were observed in He/water and the intensity showed the super-linear dependence on the applied voltage. However, the emission was not confirmed in air/water because of the interference by N<sub>2</sub> emissions. Based on these results, generation and annihilation processes of excited OH radicals in both He/water and air/water mixtures are briefly discussed.

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