

Abstract Submitted  
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**Fluorescence enhancement from nominally flat surfaces**<sup>1</sup> SHY-HAUH GUO, Department of Electrical and Computer Engineering, University Of Maryland, College Park, MD, 20742, HUNG-CHIH KAN, Department of Physics, University Of Maryland, College Park, MD, 20742, RAY PHANEUF, Department of Materials Science and Engineering, University Of Maryland, College Park, MD, 20742 — We report on experimental investigations of fluorescence enhancement from nominally flat silver and silicon substrates, in the presence of an oxide spacer layer. By varying the thickness of the oxide layer to change the spacing between fluorophores and the substrate, we find that the relative fluorescent intensity measured above Ag vs. Si substrates oscillates, indicating a resonant effect. We investigate the effect of nanoscale roughness on the observed fluorescent enhancement.

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