

Abstract Submitted  
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**All-optical control of surface plasmon polaritons using the MIT phase transition in a VO<sub>2</sub> substrate** PENG XU, IRINA NOVIKOVA, KAIDA YANG, CESAR CLAVERO, ROSA A. LUKASZEW, The College of William & Mary — We are interested in the possibility of achieving all-optical control over the properties of surface plasmon polaritons excited in an Au thin film by changing the properties of the substrate material. In particular, we are studying the effect of the metal-insulator transition in a VO<sub>2</sub> film, that can be induced either by temperature variations or by the presence of an optical field on the surface plasmon resonance of Au overlayers.

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