

Optical Switching

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Abstract:

We study the coherent properties of plasmon polaritons optically excited on periodic nanostructures. The gold grains are coupled to a single mode photonic waveguide which exhibits a dramatically reduced transmission originating from the derived quantum interference. With a nonequilibrium description of Floquet-dressed polaritons we demonstrate the switching of light transmission through the waveguide due to sheer existence of intraband transitions in gold from right above the Fermi level driven by the external laser light.