

263. Title: Terahertz wave modulator based on optically controllable metamaterial

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Abstract: We demonstrated experimentally a terahertz wave modulator based on optically controlled metamaterial. The signal modulation mechanism of the presented terahertz wave modulator was based on the resonance characteristic of metamaterial controlled without or with light excitation. A modulated semiconductor laser with 808 nm wavelength was employed to light the substrate. The interaction between the metamaterial and terahertz wave was strengthened and yielded an appreciable modulation of the terahertz output beam. The modulation speed is 0.1 Kb/s and the modulation depth of the proposed terahertz modulator