

Photo-rectification in asymmetric metallic photonic crystal slabs

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We have investigated photo-induced voltage across metallic crystal slabs with symmetric and asymmetric photonic unit cells as shown in Fig.1. Figure 2 shows photo-induced voltage observed for wavelengths below the threshold of third order diffraction to the substrate. The signal is odd function of incident angle for symmetric structure, where finite offset is observed for asymmetric one, which is ascribed to uneven diffractions in the latter. The relation between the unit cell design and photo-voltage will be discussed.

