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Title:Broadly tunable one-way terahertz plasmonic waveguide based on nonreciprocal surface magneto plasmons
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Abstract:One-way-propagating broadly tunable terahertz plasmonic waveguide at a subwavelength scale is proposed based on a metal-dielectric-semiconductor structure. Unlike other one-way plasmonic devices that are based on interference effects of surface plasmons, the proposed one-way device is based on nonreciprocal surface magneto plasmons under an external magnetic field. Theoretical and simulation results demonstrate that the one-waypropagating frequency band can be broadly tuned by the external magnetic fields. The proposed concept can be used to realize various high performance tunable plasmonic devices such as isolators, switches and splitters for ultracompact integrated plasmonic circuits. © 2012 Optical Society of America.
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