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Ag enhances optical and switching properties of gadolinium hydride films

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ABSTRACT

An improvement of the optical properties of switchable mirrors is obtained by incorporating of silver (Ag) into the palladium (Pd) cap layer of nanocrystalline gadolinium hydride system Gd/GdH_3. Two methods for modification of Pd layer with Ag are employed. The first method is the forming of an AgPd binary alloy. The second method is the forming of Ag/Pd bilayer. In both cases the modification of the catalytic top layer of Pd with Ag gives higher transparency and better switching times. The optimal Ag layer thickness for the Gd/GdH_3 system is determined.