



Switching effects in $\text{Ag}_2\text{S}-\text{Ag}_3\text{AsS}_3$ quantum dots

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Abstract

Photoluminescence and wavelength-modulated transmission spectra of Ag_3AsS_3 crystals were investigated at 10 K. Ag_3AsS_3 structures with Ag_2S layers were obtained by chemical and electrochemical methods. It was shown that nanolayers with Ag_2S quantum dots can be formed on the surface. The current-voltage characteristics, impedance, and photoeffect of these structures were studied depending on the applied voltage polarities. The time dependences of $\text{Ag}-\text{Ag}_2\text{S}-\text{Ag}_3\text{AsS}_3$ /heterostructure conductivity at different voltages applied to the illuminated contact were studied.