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intermixing in Sb/As₂S₃ nanomultilayers and may be used for efficient amplitude-phase modulated optical relief recording as well as for creating surface patterns with modified electrical parameters.

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P49 Second harmonic generation in selenium-metal structures

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The article examines the processes of second harmonic generation when selenium-metal (Ga, Sb, Bi, Zn, In) film structures are illuminated by picosecond radiation (180 ps, 80 MHz) at wavelength 800 – 1040 nm. The experiment was conducted with the assistance of confocal microscope LEICA TCS SP5 [1] where the picosecond radiation from laser Chameleon Ultra (200 fs, 80 MHz) was injected.

Selenium-metal structures were obtained by successive thermal evaporation of selenium and metal onto the glass substrate in vacuum. The obtained selenium films were either in amorphous or crystalline state depending on the temperature of the substrate.

The amorphous selenium-metal structure was crystallised either by laser irradiation (458, 488, 514, 633 nm) [1] or by annealing in inert atmosphere at temperature 80°C. A photosensitivity of structures in question was then determined as functions of intensity and wavelength of the incident radiation [2].

The second harmonic generation was observed only in crystalline structures. The intensity of second harmonic versus intensity of exciting radiation was determined for different metals used in experiments. The lifetime of excited carriers in the structures under observation also was estimated [3, 4].

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