

Abstract Submitted
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Laser induced local modification of material properties in a semiconductor alloy¹ YONG ZHANG, NAILI YUE, UNC-Charlotte — High energy (usually short pulse) lasers are routinely used for micromachining and surface modification of solid state materials. We demonstrate that a small power CW laser can be used to induce local modification of the electronic and optical properties of a semiconductor alloy at any desirable spatial location. The degree of modification can be precisely controlled by laser density and exposure time. The spatial resolution is determined currently by the beam size of a confocal optical system, but it can also be defined by the feature size of a lithographic method. The induced local changes in properties are measured by optical spectroscopy, and the results indicate the possibility of local structural modification.

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