

Modern technological methods for fabrication of high performance solar cells. / L. Jibuti. / Nano Studies. – 2015. – # 12. – pp. 177-182. – eng.

Photostimulated diffusion widely used in the technologies of modern electronics, finds ever-widening application in nanotechnology. Great interest in the methods of Photostimulated diffusion is due to the possibility of using this highly effective method in the processes of photoinduced impurity doping. In the work, the technology of monocrystalline Si-based solar cells is given where traditional thermal diffusion processes for formation of p-n junctions and Ohmic contacts are replaced by photo-stimulated diffusion processes. This leads to the decrease in the temperature (450 °C) and duration (100 times) of the aforementioned technological processes. The increase in the efficiency of the fabricated solar cells by 7 % is observed. The ionization mechanism of crystallization in semiconductors by the method of pulsed photon irradiation is considered. Fig. 16, Tab. 1, Ref. 4.

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