INFLUENCE OF SYNTHESIS CONDITIONS ON LUMINESCENCE PROPERTIES OF CdS:Li PYROLYTIC FILMS

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The influence of the Li impurity concentration and the synthesis temperature on the luminescence parameters of pyrolytic films based on CdS has been investigated. On doping Li, on the one hand, the concentration of centers of nonradiative recombination decreases, on the other hand, the concentration of free electrons increases. It causes the increase of luminescence intensity of CdS:Li pyrolytic films in comparison with the pure CdS films in the range from 650 nm to 850 nm. The synthesis temperature influences on the luminescence properties more evidently. The increases of the synthesis temperature causes the forming of more perfect polycrystal films. The perfection of the films structure causes the increase of photolumines-cence intensity to some limit.

On changing the synthesis conditions of the investigated films, the positions of maxima of intensity of elementary components of photoluminescence band are slightly changed.

The investigated films are stable to the influence of UV light.