

Optical control system for the growth of Si_3N_4 films on quartz substrates applied by the method of reactive magnetron sputtering of silicon target

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Silicon nitride thin films are widely used both in microelectronics and optical and optoelectronic devices. To obtain Si_3N_4 films, such methods are used as chemical precipitation from the gas phase and magnetron spraying. The paper presents the results of research on control over the growth and optical properties of the Si_3N_4 films by the device, the operation of which is based on the excitation of the surface plasmon resonance and is revealed to actively influence the growth process of the nitride film.

Keywords: reactive spraying, surface plasmon resonance, silicon nitride.

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