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The authors studied the possibility of influencing the structure of thin films, obtained by the magnetron ion deposition technique, through using the fractal-matrix structurizers and with the aim of triggering self-organization processes and creating local areas of well-defined fractal structure in films.

The bases of metrological security of the dimensions based on the methods of scanner probe microscopy and laser interferometer — phasemeter are represented. The methods and means of reproduction and transmission of the unit of length dimension in the indicated range with absolute binding to the state primary standard of the unit of length — the meter are offered; the technology is developed and tree-dimensional micro-nanorelief of surface are created and also the algorithms and the package of programs permitting to realize the automatized tree-dimensional dimension of the condensed envirouments are created.

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