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MATHEMATICAL MODEL OF THE DEVELOPMENT OF MANUFACTURING DEFECTS IN THE SURFACE LAYER OF SUBSTRATES OF MOEMS' FUNCTIONAL COMPONENTS

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ABSTRACT

A mathematical model of the development of manufacturing defects, with the prediction of the random component of the model in the substrates of functional components of MOEMS, which are made of semiconductors, in particular, silicon, are developed in the article.
The main manufacturing defects that arise in the surface layer of the substrates of the MOEMS functional components taking in to account the technological processes of their production and dynamic processes were used when developing the model.
The developed mathematical model takes in to account the occurrence of a random component of the model with its predictive ability.
The possibility of such control is the basis for the development of the scientific direction of technology and equipment for the production of semiconductors, materials and electronic devices - defect engineering, based on the management and forecasting of defect formation processes.

Keywords: mathematical model, defect, MOEMS, functional components.