

Mathematical simulation of intelligent control system of metal vacuum sputtering process on the basis of application of multi-agent system

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Abstract

A vacuum sputtering process comprises evaporation of the material and subsequent vapor condensation on the substrates. Getting required and repeatable quality of coatings is challenging task. It depends on capabilities of equipment, type of evaporator, interaction evaporator with the evaporating substance and deposition process. Sputtering process parameters are determined by the ability evaporator to maintain a certain temperature evaporated substance for a long time. Controlling operations sequence of pumping and heating depends on achieving optimum vacuum conditions, in spite of used pumping method. The control system must foresee and identify emerging cracks or damage of the system components. This paper focuses on the development of intelligent control system vacuum process on the agent-based approach. © IDOSI Publications, 2013.

<http://dx.doi.org/10.5829/idosi.wasj.2013.23.07.13116>

Keywords

Controlling operations, Intelligent control system, Vacuum sputtering process