

ABSTRACT

A semiconductor process recipe automatic acquisition method and system and semiconductor process equipment. The method includes randomly inputting a process parameter set into a constructed deep neural network model, determining whether a difference degree between a process result evaluation index output by the deep neural network model and a corresponding set process requirement meets a set requirement, if yes, using the process parameter set as a process recipe for an actual process, and otherwise, using a gradient algorithm to adjust the process parameters input into the deep neural network model, obtaining, based on a self-consistent iterative method, a process parameter set that makes all process result evaluation indices output by the deep neural network model satisfy the correspondingly set process requirements, and using the process parameter set as the process recipe for the actual process. The corresponding process recipe is automatically obtained according to the provided process requirements, and the acquisition efficiency of the process recipe is improved.

Fig. 3A