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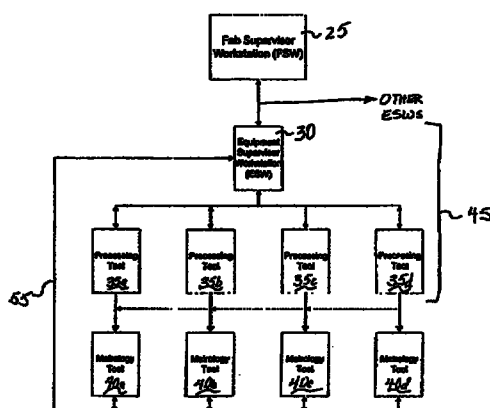
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(54) Title: RUN-TO-RUN CONTROLLER FOR USE IN MICROELECTRONIC FABRICATION



(57) Abstract: An automated run-to-run controller for controlling manufacturing processes comprises a set of processing tools, a set of metrology tools for taken metrology measurements from the processing tools, and a supervising station for managing and controlling the processing tools. The supervising station comprises an interface for receiving metrology data from the metrology tools and a number of variable parameter tables, one for each of the processing tools, collectively associated with a manufacturing process recipe. The supervising station also includes one or more internal models which relate received metrology data to one or more variables for a processing tool, and which can modify variables stored in the variable parameter table to control the process tools using feedback and/or feed-forward control algorithms. Feed-forward control algorithms may, in certain embodiments, be used to adjust process targets for closed loop feedback control. The supervising station may have a user interface by which different feedback or feed-forward model formats (single or multi-variate) may be interactively selected based upon experimental or predicted behavior of the system, and may also permit users to utilize their own models for run-to-run control.

WO 00/79355 A1



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