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(54) Title: TARGET AND PROCESS SENSITIVITY ANALYSIS TO REQUIREMENTS

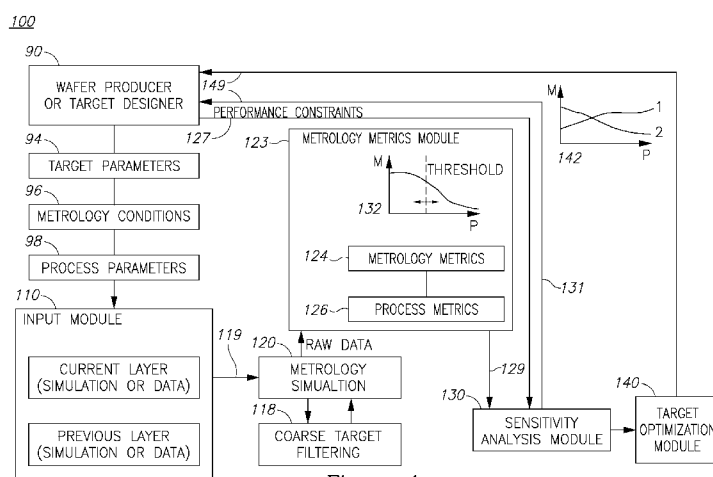


Figure 1

(57) Abstract: Systems and method are provided for analyzing target, process and metrology configuration sensitivities to a wide range of parameters, according to external requirements or inner development and verification needs. Systems comprise the following elements. An input module is arranged to receive parameters relating to targets, target metrology conditions and production processes, to generate target data. A metrology simulation unit is arranged to simulate metrology measurements of targets from the target data and to generate multiple metrics that quantify the simulated target measurements. A sensitivity analysis module is arranged to derive functional dependencies of the metrics on the parameters and to define required uncertainties of the parameters with respect to the derived functional dependencies. Finally, a target optimization module is arranged to rank targets and target metrology conditions with respect to the simulated target measurements.

