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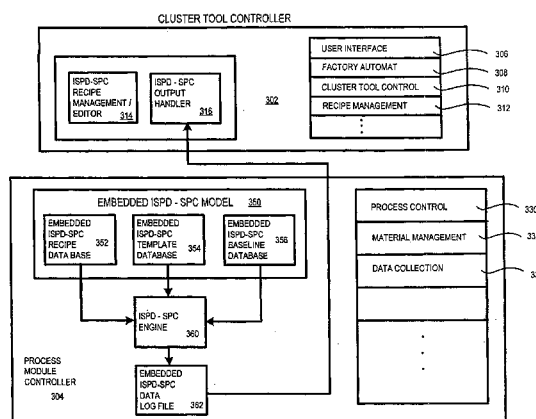
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(54) Title: INTEGRATED STEPWISE STATISTICAL PROCESS CONTROL IN A PLASMA PROCESSING SYSTEM



(57) **Abstract:** An automated process control system configured for controlling a plasma processing system having a chamber, the chamber being configured for processing a substrate. The automatic process control system includes a first sensor disposed within the chamber, the first sensor being configured for making a first plurality of measurements pertaining to a first parameter associated with a structure disposed at least partially within the chamber. The performing the first plurality of measurements is performed during the processing of the substrate. The automatic process control system further includes first logic coupled to receive the first plurality of measurements from the first sensor. The first logic is configured for analyzing using SPC methodologies the first plurality of measurements during the processing. There is also included second logic coupled to receive a first signal from the first logic, the second logic being configured to stop the processing prior to completing the processing if the first signal indicates a fault with the processing.



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