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(54) Title: SYSTEM TO MONITOR A CONSUMABLE PART AND METHOD TO MONITOR PERFORMANCE LIFE AND PREDICT MAINTENANCE THEREOF

(57) Abstract: A method (20) for determining a maintenance interval for a consumable part and/or for equipment containing a consumable part obtains a plurality of measurements of temperature of the consumable part (22), receives each of the measurements at a totalizing unit (24), correlates each of the measurements to one of a plurality of temperature subranges (26), accumulates for each of the subranges an amount of time the measurements of temperature were correlated to each of the subranges (28), determines a total time by aggregating the accumulated time for each subrange with a weighting function (30), and generates a signal to prompt a maintenance event when the total time equals or passes a runtime setpoint (32). In supplement to or in alternative to the above, the method also correlates a subrange of two sequential measurements (34), indexes a breakpoint register if the correlated subranges are different (36), and generates a signal to prompt a maintenance event when a value of the breakpoint register equals or passes a breakpoint setpoint (32). A system for collecting, storing, and displaying runtime data of a resistive heating element in a semiconductor processing unit is also disclosed.