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(54) **Title**: METHODS AND APPARATUS TO PREDICT ETCH RATE UNIFORMITY FOR QUALIFICATION OF A PLASMA CHAMBER

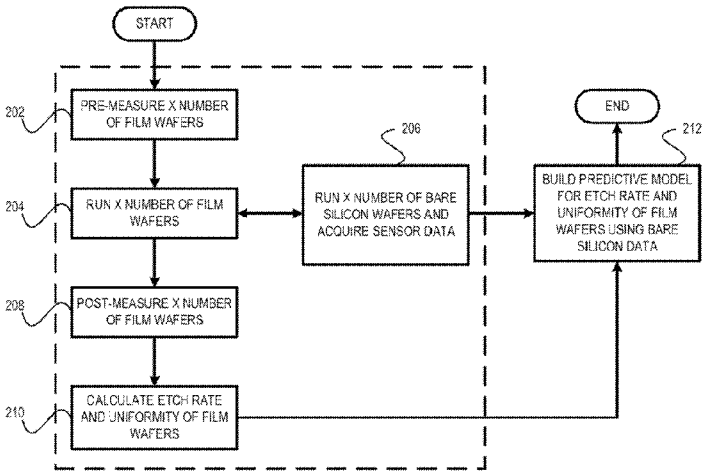


FIG. 2

(57) **Abstract**: A method for predicting etch rate uniformity for qualifying health status of a processing chamber during substrate processing of substrates is provided. The method includes executing a recipe and receiving processing data from a first set of sensors. The method further includes analyzing the processing data utilizing a subsystem health check predictive model to determine calculated data, which includes at least one of etch rate data and uniformity data. The subsystem health check predictive model is constructed by correlating measurement data from a set of film substrates with processing data collected during analogous processing of a set of non-film substrates. The method yet also includes performing a comparison of the calculated data against a set of control limits as defined by the subsystem health check predictive model. The method yet further includes generating a warning if the calculated data is outside of the set of control limits.

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