

WHAT IS CLAIMED IS:

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1. A substrate processing method using a substrate processing apparatus including a plurality of processing chambers for processing a substrate, the substrate processing method comprising:

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by referring to a memory unit in which an estimated model of sensor data generated from sensor data input to or output from each of the processing chambers when processing first test substrates are processed in the processing chambers under a same processing condition, the estimated model being a model indicating sensor characteristic changes over time for each sensor included in each of the processing chamber,

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calculating a difference between a value of the sensor data obtained from the estimated model and an ideal sensor value;

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adjusting an apparatus parameter of each of the processing chambers based on the difference;

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loading product substrates continuously into the processing chambers without specifying a loading destination processing chamber; and

when the product substrate is loaded into a processing chamber of the processing chambers in the loading,

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adjusting the sensor data input to or output from the processing chamber into which the product substrate has been loaded based on the apparatus parameter of the processing chamber that

has been adjusted in the adjusting; and
processing the product substrate.

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2. The substrate processing method according
to claim 1, wherein the adjusting includes adjusting
the apparatus parameter of each of the processing
10 chambers according to
the sensor data input to or output from each
of the processing chambers when second test
substrates are processed under the same processing
condition in the processing chambers, and
15 an estimated model of the sensor data of
each of the processing chambers.

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3. The substrate processing method according
to claim 1, wherein the sensor data is at least one
of optical data, electric data, and physical data
input to or output from each of the processing
25 chamber.

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4. The substrate processing method according
to claim 1, wherein the apparatus parameter includes
a parameter for at least one of a high-frequency
power control device, a pressure control device, a

gas control device, a temperature control device, a DC voltage control device, and a position control device.

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5. The substrate processing method according to claim 1, wherein the adjusting is performed at a timing of at least one of

when processing of the product substrate is started after a start-up of the substrate processing apparatus,

when processing of the product substrate is started after a maintenance of the processing chambers,

after a predetermined number of product substrates have been processed by the processing chambers, and

after the product substrates have been processed for a predetermined period of time by each of the processing chambers.

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6. The substrate processing method according to claim 2, wherein the adjusting includes processing second test substrates in the processing chambers under the same processing condition right before the product substrate is loaded into one of the processing chambers, and adjusting the apparatus parameter of each of the processing chambers.

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