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(72) Inventors; and

(75) Inventors/Applicants (for US only): **YUN, Gunsu** [US/US]; 4650 Cushing Parkway, Fremont, CA 94538 (US). **SHAREEF, Iqbal, A.** [US/US]; 4650 Cushing Parkway, Fremont, CA 94538 (US). **JORGENSEN, Kurt** [US/US]; 4650 Cushing Parkway, Fremont, CA 94538 (US). **CHARATAN, Robert** [US/DE]; 4650 Cushing Parkway, Fremont, 94538 (US).(74) Agent: **NGUYEN, Joseph, A.**; P.O. Box 700640, San Jose, CA 95170 (US).

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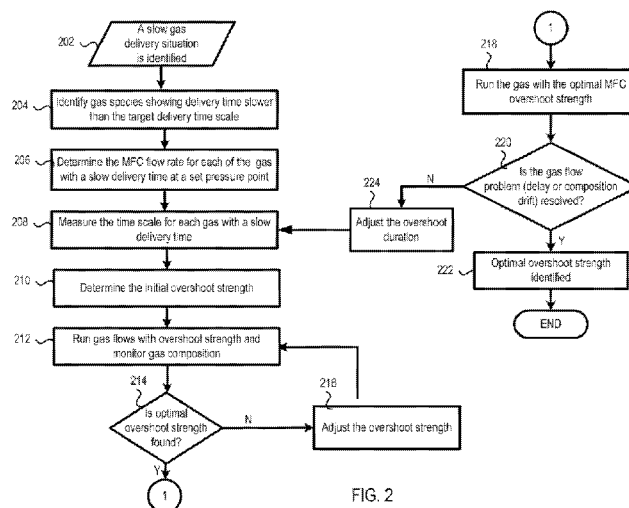


FIG. 2

(57) Abstract: A method for establishing a mass flow controller (MFC) control scheme, which is configured for reducing a time scale for gas delivery into a processing chamber, for a recipe is provided. The method includes identifying a set of delayed gas species utilized during execution of the recipe with a set of delivery time slower than a target delivery time scale. The method also includes establishing an initial overshoot strength and an initial overshoot duration for each gas specie of the set of delayed gas species. The method further includes establishing MFC control scheme by adjusting an MFC hardware for each gas specie during the execution of the recipe. Adjusting the MFC hardware includes applying the initial overshoot strength for the initial overshoot duration to determine if the MFC control scheme provides for each gas specie a pressure profile within a target accuracy of an equilibrium pressure for the processing chamber.