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(54) Title of the Invention: **Model predictive controller with tunable integral component to compensate for model mismatch**
Abstract Title: **Model predictive controller with tunable integral component to compensate for model mismatch**

(57) An MPC controller technique integrates feedback control performance better than methods commonly used today in MPC type controllers, resulting in an MPC controller that performs better than traditional MPC techniques in the presence of process model mismatch. In particular, MPC controller performance is enhanced by adding a tunable integration block to the MPC controller that develops an integral component indicative of the prediction or other control error, and adds this component to the output of an MPC controller algorithm to provide for faster or better control in the presence of model mismatch, which is the ultimate reason for the prediction error in the first place. This technique enables the MPC controller to react more quickly and to provide better set point change and load disturbance performance in the presence of model mismatch, without decreasing the robustness of the MPC controller.

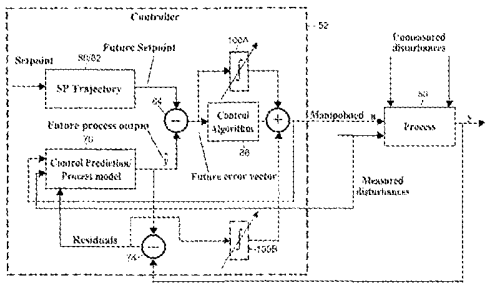

FIG. 11

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