



(12) **Patent Application Publication**  
**PAN et al.**

(43) **Pub. Date:** **Jun. 27, 2024**

CPC ..... ***H01J 37/3464*** (2013.01); ***C23C 14/35***  
(2013.01); ***C23C 14/54*** (2013.01); ***H01J***  
***37/3405*** (2013.01); ***H01J 37/3476*** (2013.01);  
*H01J 2237/332* (2013.01)

(72) Inventors: **Junjie PAN**, Fremont, CA (US); **Yida LIN**, Santa Clara, CA (US); **Xiangjin XIE**, Fremont, CA (US); **Martin Lee RIKER**, Round Rock, TX (US); **Suhas UMESH**, Sunnyvale, CA (US); **Keith A. MILLER**, Mountain View, CA (US)

## ABSTRACT

Methods and apparatus for controlling processing of a substrate within a process chamber, comprising: performing statistical analysis on measurements of deposition profile of at least one previously processed substrate processed in the process chamber, wherein the deposition profile is based at least on modulating a power parameter of at least one power supply affecting a magnetron in the process chamber; determining, based on the statistical analysis, a model of the deposition profile as a function of at least the power parameter; fitting the measurements of deposition profile to the model; determining a power parameter setpoint for the at least one power supply using the fitted model based on a desired deposition profile of an unprocessed substrate; and setting the power parameter setpoint for processing the unprocessed substrate.

(22) Filed: **Dec. 27, 2022**

## Publication Classification

<i>H01J 37/34</i>	(2006.01)
<i>C23C 14/35</i>	(2006.01)
<i>C23C 14/54</i>	(2006.01)

