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(54) Title: TUNING A SUBSTRATE TEMPERATURE MEASUREMENT SYSTEM

(57) Abstract

A technique and system for tuning temperature sensor readings in a thermal processing chamber includes determining an actual temperature profile for a substrate based on measurements of the substrate. A simulated temperature profile for the substrate is calculated using a respective interim temperature correction value for one or more temperature sensors associated with the chamber. A Gaussian-like distribution for thermal contributions from multiple radiation sources in the chamber can be used to simulate the temperature profile. The simulated temperature profile and the actual temperature profile are combined to form an estimated temperature profile. A final value for each respective temperature correction value is determined using an optimization algorithm which results in the estimated temperature profile being substantially uniform across the surface of the substrate. Each final temperature correction value is used as an offset to temperature measurements obtained from the corresponding temperature sensors.

