Analysis of Endpoint Systems in Plasma Etch

A Major Qualifying Project Report

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by

Nicholas Culkin

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Approved:

Steven Kmiotek
Advisor

Plasma Etch is a process used in semiconductor manufacturing to remove very small amounts of material in anisotropic or isotropic patterns. Laser interferometry is one system of endpoint that measures thickness using interference patterns from the refractive index of the material and wavelength of the light used. The interference pattern typically looks like a wave and is interrupted when endpoint is reached. Optical Emission Spectrometric (OES) systems measure the emission from plasma in the process to determine the materials being etched and the reactants in the process. OES can detect endpoint by tracking materials in the process chamber and detecting when the desired material has been etched.

This MQP contains information deemed confidential to the business interest of the industrial sponsor. Please contact Stephen Kmiotek at sjkmiotek@wpi.edu for additional information.