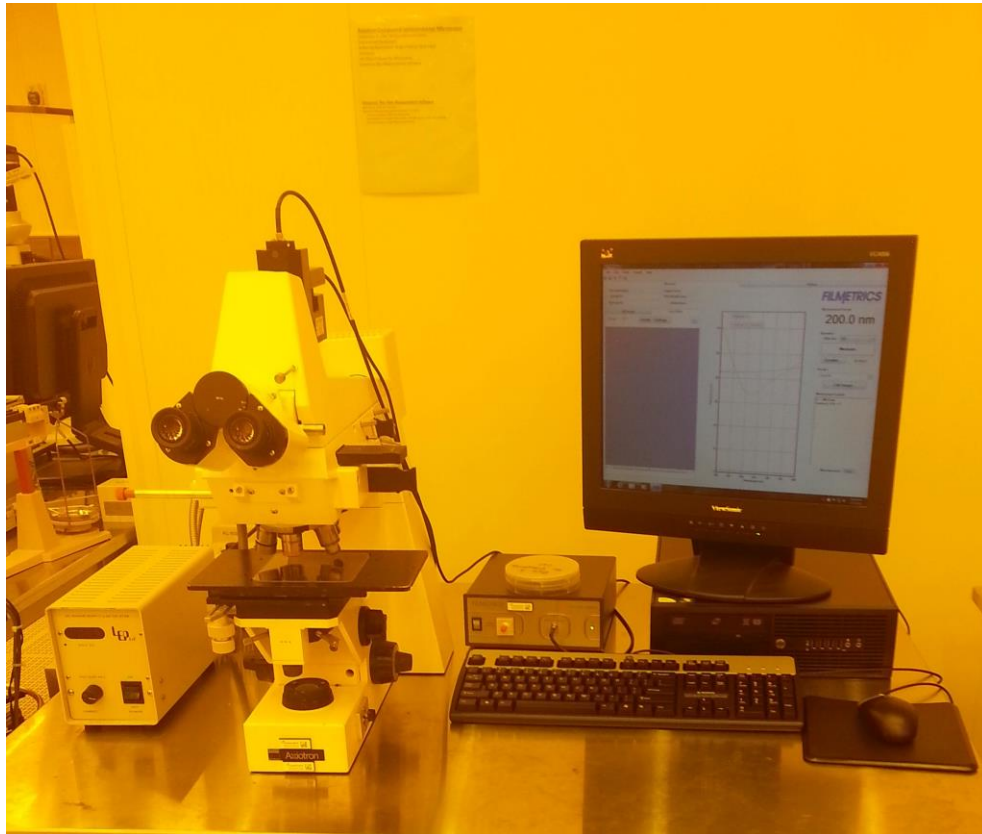


# Filmetrics User Manual



University of Notre Dame

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## General Precautions

1. Be familiar with use of Axiotron Microscope and how to operate it.
2. Software will need a baseline before the first use, anytime the light intensity has been adjusted, and anytime the magnification is changed.

## Baseline

1. Enable the machine in Coral.
2. Set the magnification and illumination to the values you will be using. This may require you to examine your real sample before performing the baseline.
3. Start Filmetrics software. "FILMeasure" Icon is located on desktop or in "Start Menu/Programs/Filmetrics/ Filmeasure".
4. Make sure microscope is allowing light to the thickness monitor. Set the objective to you required magnification and note the yellow filter position as required.
5. To start the baseline procedure, click on the baseline button and follow on screen prompts.
  - a. You will need to first focus on your sample and then click "Acquire Sample".
  - b. Focus on the bare silicon wafer and click "Acquire Reference".
  - c. Lower the microscope table, tilt the reference sample on a 45 degree angle and click "Take dark".
  - d. This completes the baseline and you can close the baseline window.
6. Measure the SiO<sub>2</sub> on Si CVD wafer beside the microscope.
  - a. Recipe should be SiO<sub>2</sub> on Si.
  - b. Click measure and compare results to listed thickness on the wafer box.
  - c. If results are inaccurate then repeat baseline steps. If results are good then proceed with your measurements.
7. Put your real sample on the microscope and locate the area that you wish to measure. The area to be measured is the dark square on the video monitor. Be sure that the microscope is focused properly.
  - a. Remember that if you change the magnification of illumination you must repeat the base line.
  - b. Click "Edit Recipe". Enter your guess of the thickness of the layers to be measured. This does not have to accurate, it just gives the computer a starting point.
  - c. "Fit" should be as close to possible to 1.000. Spectrum and Model in the window should overlay well.
  - d. Sometimes adding "Refractive Index" and "K" will improve measurements and fit.
8. Disable the machine in Coral.