

Project Report

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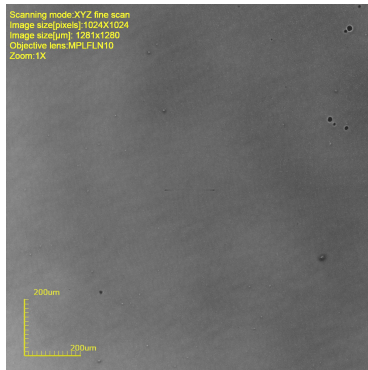
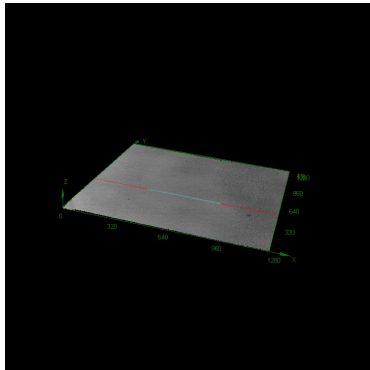
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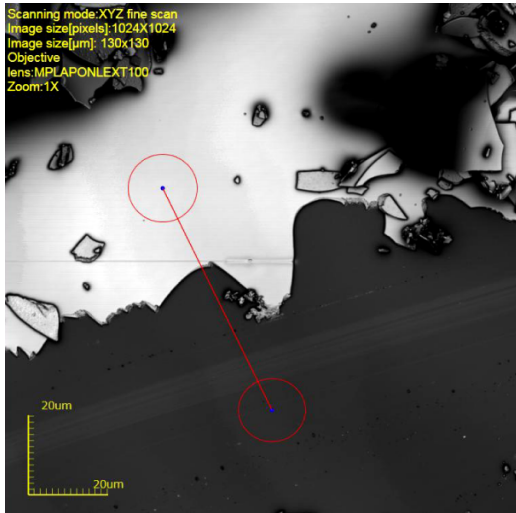
Outline

- 1 Microscopy Measurement
 - Film Uniformity
 - Film Thickness
- 2 Absorption Coefficient
 - 488nm and White Source
- 3 Refractive index
 - Refractive index
- 4 TODO
 - TODO

10x lens



Film Thickness



► 0.747 μm

► 100x lens

488nm and White Source

488nm Measurements

- ▶ W/O film: 17.82W
- ▶ With film: 17.82W
- ▶ The film is too thin to absorb much, maybe good for us?

TODO

- ▶ Add ND filter and retest.
- ▶ Increase the film thickness.
- ▶ How to increase thickness to upto $200\mu m$???

White source

- ▶ Tried last night.
- ▶ May need Maiké's help: Mounts and driver for the spectrometer.

Refractive index

dn/dt

- ▶ Cooling system needed if we want data for long time like 2hours.
- ▶ Black enclosure needed as well.
- ▶ Film ready for 20min, need to test Δn , thanks for Jerry's help

dn/dx

- ▶ How to focus tight. Now it's mm.
- ▶ How to measure spot size.
- ▶ How to measure such small changes, Raman?
- ▶ How to mark this spot size out.

TODO

TODO List

- ▶ Mechanism of hologram, like multiplexing.
- ▶ How to fabricate thick film, where are we now?
- ▶ OptiGrate.
- ▶ FTIR – Maiké?