

NPD Start Surface Meeting notes

XUV Research Group
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1 Computations

Persons: Spencer

1.1 a-Si Calculations

1.2 Check SnTe optical constants for credibility

2 Experiment

Persons: Doug, Joe, Matt, Spencer

2.1 Deposition

Make and characterize single layer films (Matt and Spencer) :

1. Contact Phil Brown to use his E-beam evaporator with quartz crystal thickness monitors.
2. Obtain Ti: Either find it with Phil among his materials or purchase (Chem Stores).
3. Deposit Single Layers:
 - (a) MgF₂
 - (b) Ti

(c) TiO₂

(d) W (+ WO_x)

4. Get the Measurements on the layers done.

2.2 Measurements

2.2.1 Thickness

- XRD (David Oliphant) Should do X-ray reflectivity calculations for sample materials.
- Ellipsometry (Spencer and Doug)

2.2.2 Reflectivity and Indices (Matt and Joe Choi)

3 Maintenance

Persons: Doug, Joe, Calvin, Hobbes

3.1 Thickness Monitors (Doug)

3.2 RGA (Joe and Doug)

Put RGA on evaporator system and check for water.

3.3 E-Guns (Doug and Joe)

Test with water pressure and put them back in. Take out small e-gun and check it after doing the water test with the RGA.

3.4 JJ and Greg Stuff

- Clean bench and visquen – more permanant + Electrical on.
- Electric interlocks for channeltron for $\theta - 2\theta$ chamber.
- Install new hollow cathode.

4 Literature

Persons: Doug, Joe, Spencer

4.1 Search for optical constants of oxides

Search strings would possibly be the following:

'(optical WITH constants) OR (refractive WITH index)'

4.2 Search for info on H-lyman-alpha

Search strings might look like this:

'10eV OR VUV OR 1216 OR (Hydrogen WITH lyman)'