

APPROVAL REQUIREMENTS

Title	Dept.	Name (Printed)	Signature	Date
NFL Director	RES	Thomas S. Ferraguto		6/24/13
Vice Provost	RES	Julie Chen		6/24/13
EEM Director	EEM	Rich Lemoine		6/24/13

REV	DESCRIPTION	DATE
A	Initial Release	6/24/13



<u>Thomas S Ferraguto</u>	<u>Title</u>
<u>Woolam Ellipsometer</u>	<u>SOP Woolam Ellipsometer</u>
	<u>RES 01-004-A</u>

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Introduction

1.0 Purpose

- 1.1 Purpose of this S.O.P. is to guide the users through basic measurements using the Woolam Ellipsometer.

2.0 Description

- 2.1 Ellipsometry is a non-destructive optical technique in which the sample to be characterized is illuminated with a beam of polarized light. Ellipsometry measures the change in polarization state of the measurement beam induced by reflections from (or transmission through) the sample.

Related Documents

3.0 List related internal documents:

- 3.1 EEM CHP

4.0 List related external documents:

- 4.1 Complete Ease Software Manual
- 4.2 Complete Ease Software Manual Abridged

Operation

5.0 Process Description

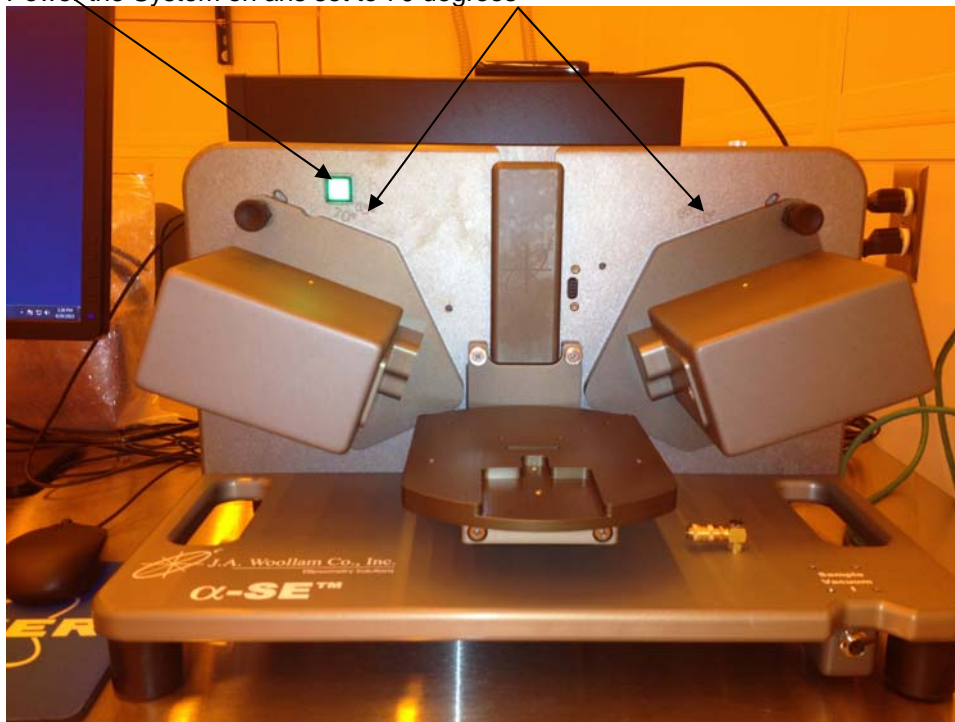
5.1 Off-Sample Measurements

- 5.1.1 Start the Complete EASE Software by double clicking the desktop icon, the system

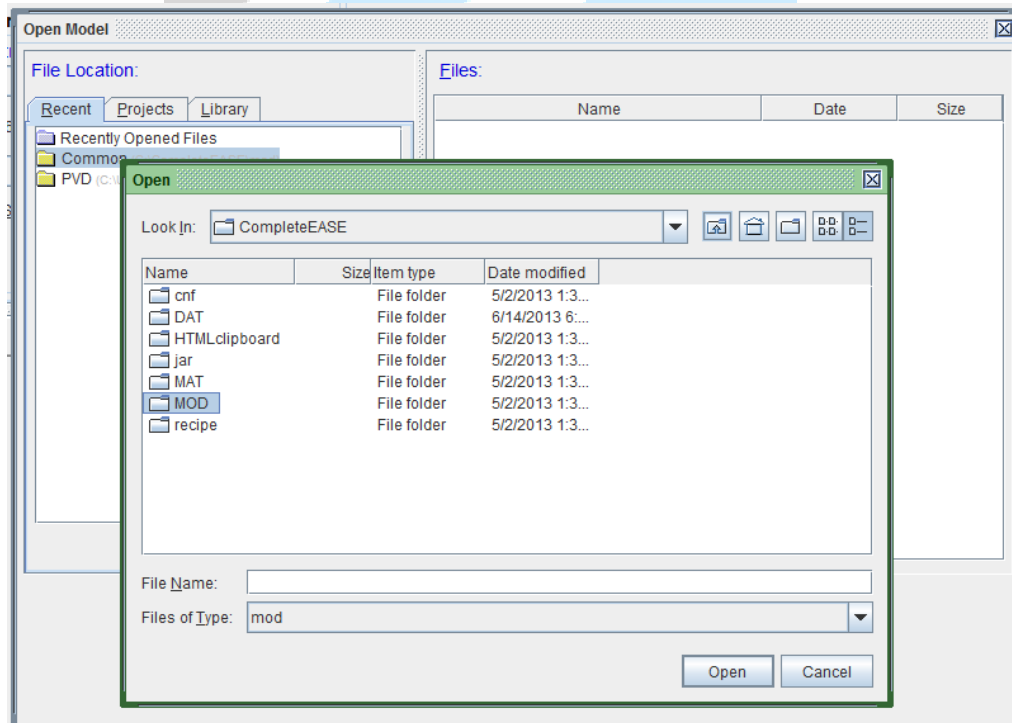
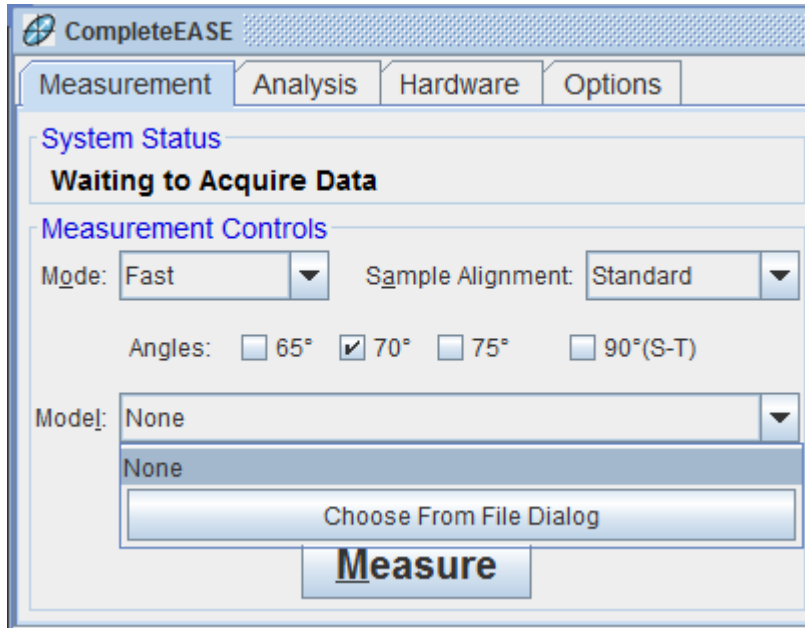
will ready to operate when the "Waiting to Acquire Data" message appears.



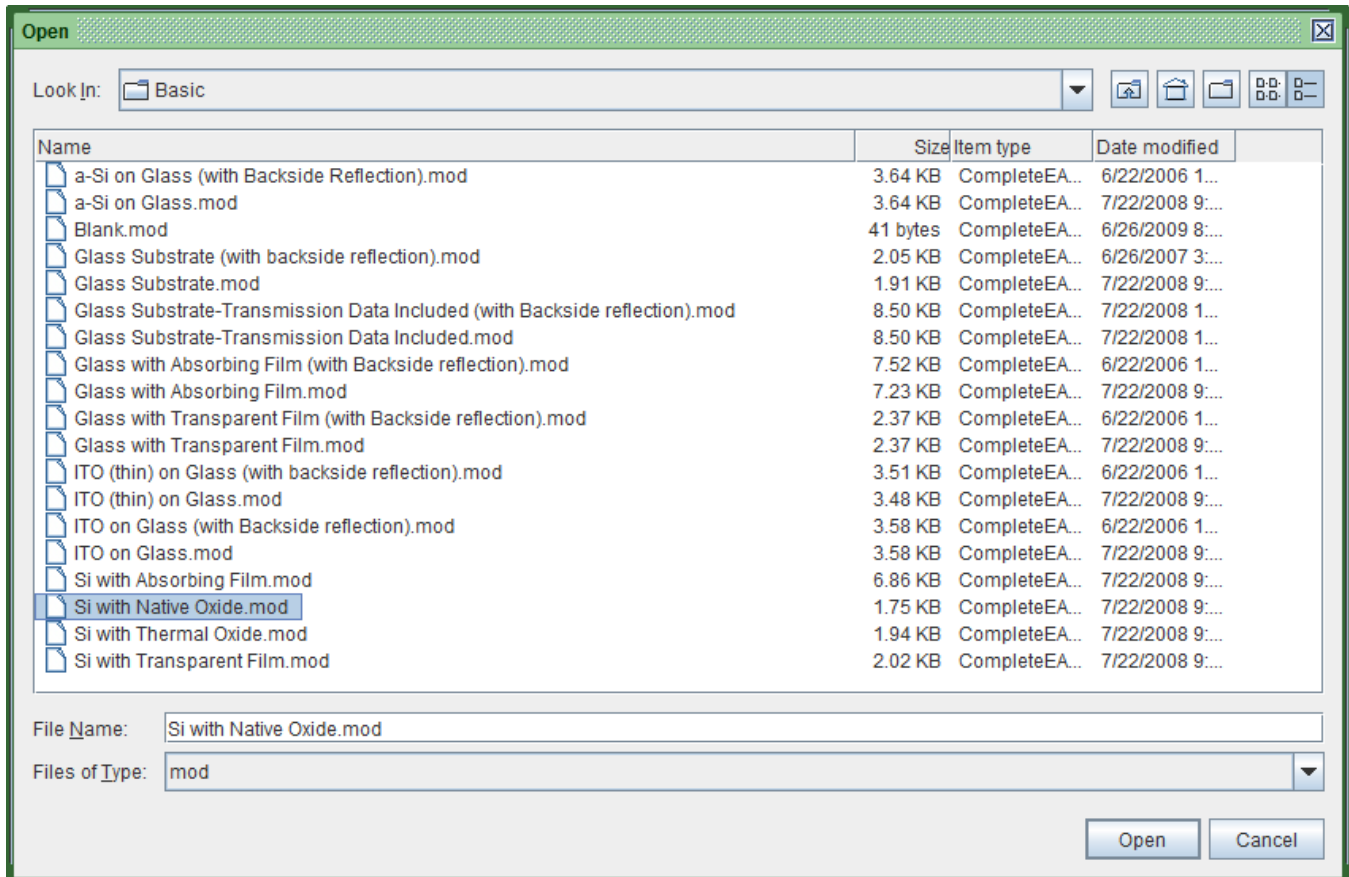
5.1.2 Power the System on and set to 70 degrees



5.1.3 Select a Model "Choose From File Dialog"



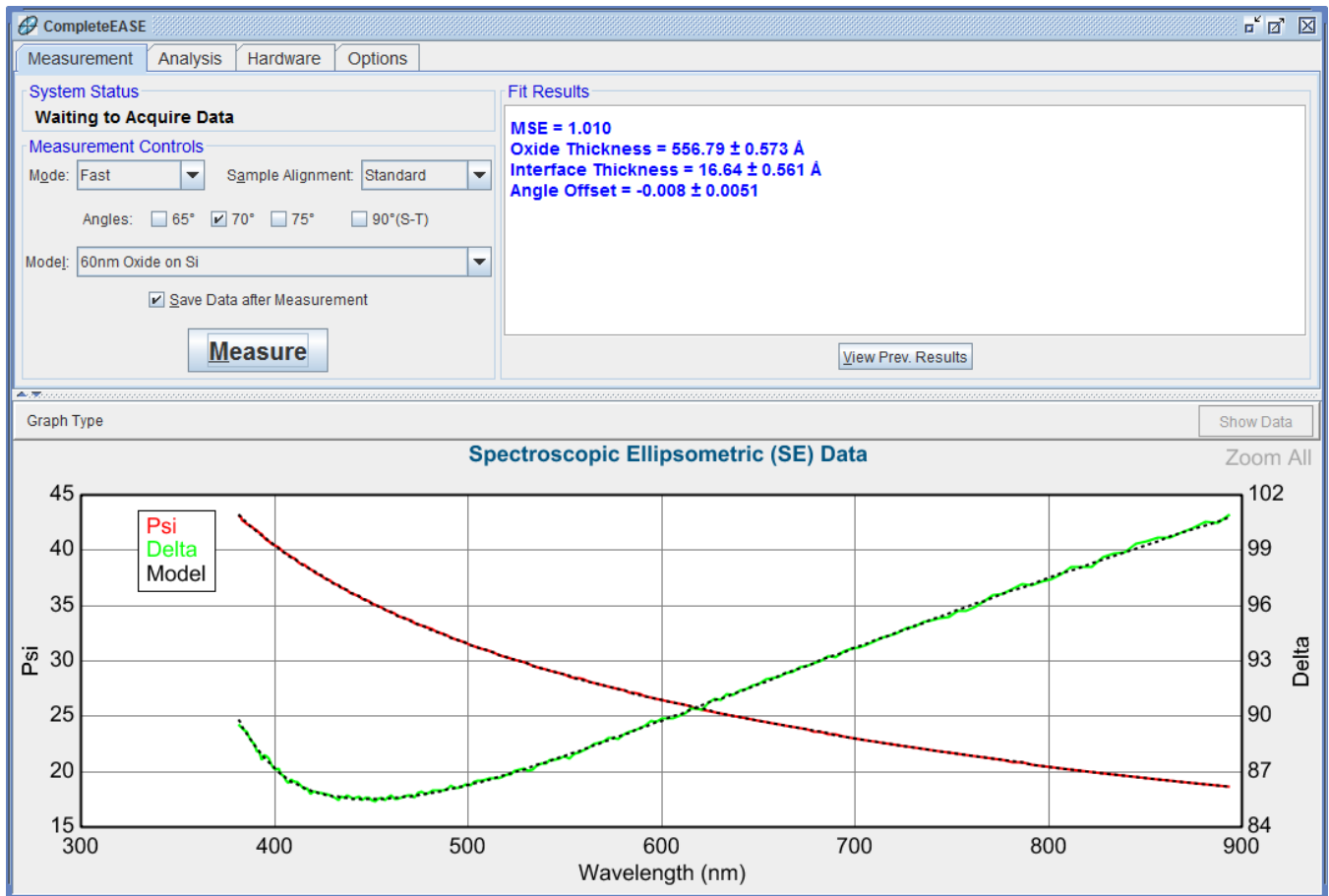
5.1.4 Select “Common” , “MOD”,”Basic” to find the model that best suits your sample.



5.1.5 Mount the sample on the chuck

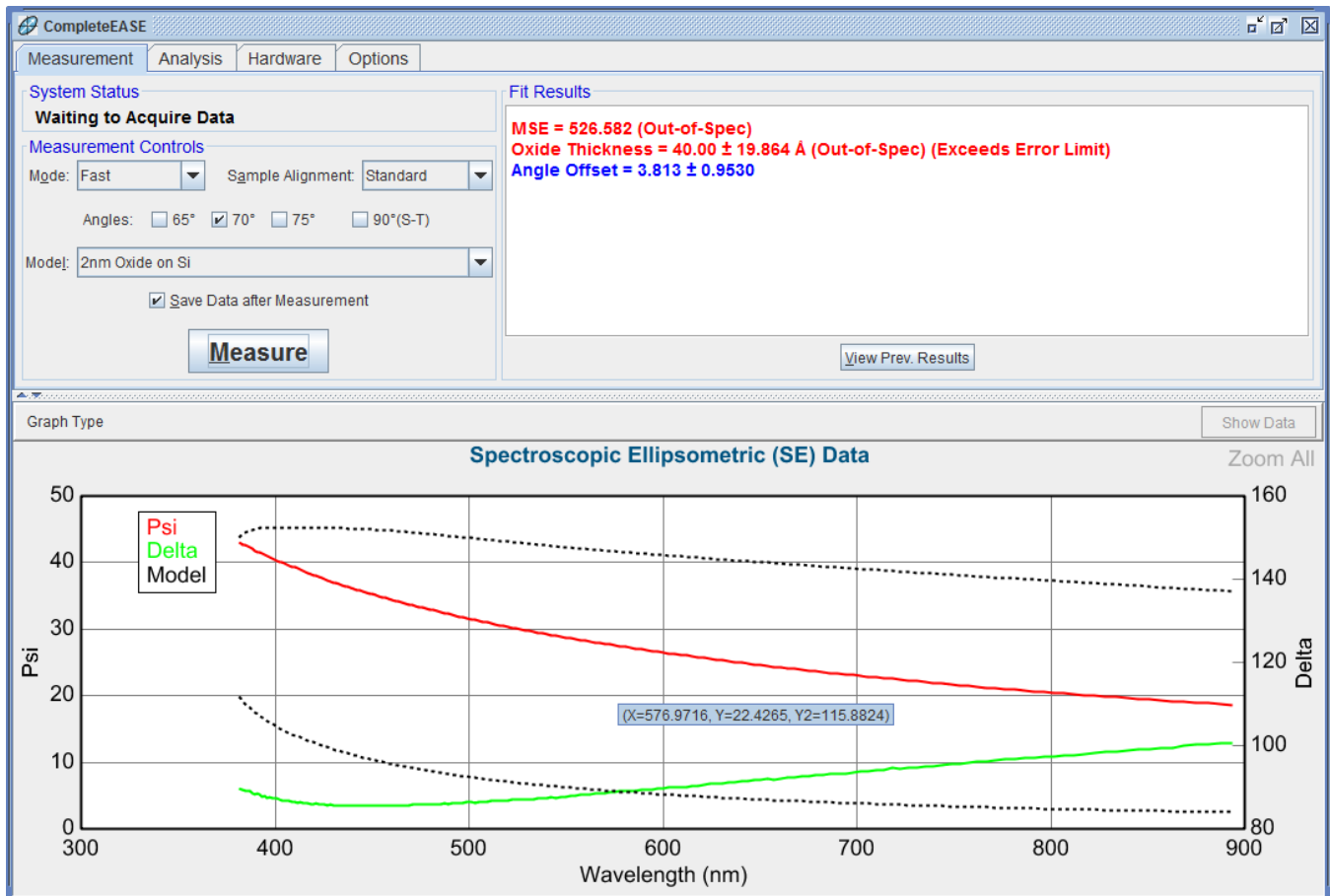
5.1.6 Select the “Measurement” tab

5.1.7 Click “Measure” After the SE data is acquired, the model analysis will be performed and the fit parameters displayed in the “Fit Results Panel”. (Note: Black Dashed “Model” curves should lie essentially on top of the colored PSI and Delta Measured Curves if the model fits the data well. If NOT you have selected a poor model. Fit results are Depicted in the upper right portion of the screen.



Above depicts a good "Fit"





Above Depicts a "Bad Fit"

6.0 Safety

- 6.1 See UMass Lowell "CHP"
- 6.2 Safety Glasses must be worn.

7.0 Maintenance

- 7.1 Preventive Maintenance Instruction (none)
- 7.2 See Appendices Section 12 of the abridged software manual.

Document Revision History

Date	Description of Modifications	Name	Revision
6/24/2014	Initial Release	Thomas Ferraguto	A

