

#### Materials Characterization Core at Drexel University Training Library – Standard Operating Procedures

#### Rigaku Smartlab Standard Operating Procedure

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These notes are meant to serve as an aid to assist users who have been trained and certified by MCC Staff. If ever you are unsure about the correct operation of the instrument or any of its components, please consult a MCC staff member before continuing. Never use equipment that you are not trained and approved to use.

Before using the MCC, please review the MCC User Handbook available through our website.

## SmartLab XRD SOP

- Open ILab credential before the first training session.
- Discuss with you PI what kind of the samples and possibly mode (PB or BB) you will be using XRD or possibly both.
- BB (Bragg-Brentano) is the classical powder mode for the polycrystalline samples. PB (Parallel Beam) mode utilizes high resolution beam for highly oriented samples e.g the thin films and epitaxial film samples.
- BB and PB mode supplement from Rigaku is attached to this training.

Locate and Open SmartLab Guidance icon from the Desktop. Program might be open so you skip this step



Log in name: crfuser Password: crfuser

Note: credentials to the computer is the same (in case you have an issue with SmartLab Guidance and you need to restart the computer.)

# Program opens in the following format. Selecting the righ package BB or PB based on your sample.

## 1-3. Perform the Optics Alignment, Sample Alignment and Measurements.

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# Locate the right package for your measurments



### BB (Bragg-Brentano) package is chosen here





#### Perform the Sample alignment Step 2

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### Example of the performed scan



### PB (Parallel Beam) Medium Resolution Package is chosen here

