F. OPERATING PROCEDURE, BRUKER SMART APEX II DIFFRACTOMETER

F.1. Standby Condition.

Normally, the diffractometer should be turned off when not in use.

When in use: the standby condition for this instrument is as follows:

* + main door and glass door both closed
  + 10 kV, 5 mA
  + shutter closed, shutter open lights off (located on the right wall of the enclosure)
  + the goniometer is parked at the “home” position
  + Haskris chiller unit on (65° F)
  + All valves of cooling water supply fully open

If the main door to the goniometer enclosure is open the APEX-II will not turn on.

F.2. Startup From Standby Condition

If the APEX-II is in the standby mode, proceed as follows:

* + check to see if all settings are, in fact, in the standby mode. If not, set them to the standby mode settings or find out why they were changed.
  + Check that the shutter lights are off (located on the right wall of the enclosure)
  + Insert sample, taking care not to bang or abuse the sample holder or to abrade the 3 positioning pins with the sample
  + Start the BIS program (no error messages)
  + Start the APEX2 program; connect to the instrument; if the Instrument Status window is not open, open it. The cooling water flow rate should be > 4.1 LPM
  + Turn on the high voltage switch; check for alarm/error messages
  + Center the crystal using the setup interface. After centering the crystal the door should be closed (audible click).
  + Start the experiment (if the dark images expired, the system will acquire them automatically)
  + The system goes to the standby mode automatically after the experiment. It is advisable NOT to open the door during the experiment. (However, the system will be automatically brought to the standby mode if the “door open” button is depressed). Never attempt to open the door with the RED LEDs “on”, indicating that the shutter is open.
  + Leave the instrument in the standby condition if someone is going to use it after you.
  + Report any malfunctions and/or unusual observations.

F.3. Startup From Totally Shut-Down Condition

* + turn on Haskris and wait until the temperature on front panel drops to 68 F
  + turn on the Lytron and wait until the temperature drops below -6C
  + turn on the main switch on the instrument enclosure
  + follow the procedures above to run your experiment