**Procedure for Use of the XPS Autosampler**

1. Create and save a recipe(s) with the appropriate scan parameters for the sample or samples being examined.

2. Create a new recipe set to Function: PT M (for position table).

3. From the View menu, select *Motion Control Pnl*. The motion control panel should appear.

4. Focus on the first sample to be examined. On the motion control panel dialog box, select SET XYZ and R (hit both buttons). This will establish the first sample as (0,0,0,0) in (x,y,z,R) space, otherwise known as "home."

5. If there is a red warning that says: "Joystick disabled" then press the joystick button on the *Motion Control Pnl*. This will change the warning to "Joystick enabled."

6. In the recipes box, select the pencil icon in the function menu. A dialog box called "Position Table – Multi Recipe" should appear. Select the button labeled "Add Line." With the line highlighted, select the button labeled "Get Position." The line should read the coordinates (0,0,0,0).

7. Move the stage to focus on the next sample. Select "Add Line" and "Get Position" again. The second line should read the coordinates from the Motion Control panel dialog box. Continue this process until the coordinates of each sample have been entered into the Position Table dialog box. Because of the limited range of motion of the stage, it is best if the samples are placed along the periphery of the stub. After focusing on the first sample, the stub may be moved to the other samples simply by rotating around the R axis.

8. Select the button labeled "Recipes" in the middle of the Position Table dialog box. Under the "Position" heading, name each sample. Under the "Recipe" heading, select the recipe with the appropriate scan parameters for each sample.

9. Select "Save > Exit."

10. In the recipe function menu, name the position line numbers to be scanned. The default is "1,2;" you may add as many lines as you choose (i.e. 1,2,3,4,5,6,7 for seven lines).

11. In the box in the lower right-hand corner of the screen, name the project and experiment. Do not put important information in the "Expt. Desc." line because it will not be saved.

12. Select "Run" from the top of the screen.

*Lauren Webb, 8 August 2003*