

Sample Mounting Systems

- 1) How do I prepare and ship my samples to work with the system?
 - a. What are the common problems with sample preparation?
 - b. How do I acquire any of the specialized equipment that I may need?
 - c. If I purchase specialized storage containers or pins – will they be useful at more than one beamline or synchrotron?
- 2) How reliable is the system?
 - a. Are there any reliability statistics available?
 - b. What are the common problems that occur?
 - c. How long has it been tested?
- 3) How difficult is it to use the system?
- 4) How do I transfer samples from the shipping container to the mounting system?
- 5) How fast can I mount / dismount crystals?
- 6) How cold are the crystals during transport?
- 7) Can the system be operated remotely?

Automatic Crystal Centering

- 1) How reliable is the system?
 - a. What are the common problems that occur?
 - b. Do any of the problems result in crystal damage?
- 2) How long does it take to center a sample?
- 3) Is there an optimum way to mount my crystals to get the best results?
- 4) What if I don't agree with the automated center position?
- 5) What is it centering on? (Does the system center the loop or try to identify the crystal inside the loop?)
- 6) Could the beam size be automatically adjusted to the loop size?
- 7) Will I get the same loop center position each time I mount the same sample?
- 8) Do the different routines used at different beamlines give the same results?
- 9) While screening, can I choose a best crystal position and save this information to use later for data collection?
- 10) How does the lighting effect crystal centering? Could the lighting be adjusted automatically?

Crystal Screening Interfaces

- 1) How difficult is it to use the system?
- 2) Could the user easily pause the system to look at a crystal more closely without losing results or having to start over?
- 3) How reliable is the software?
 - a. What are the common problems that occur?
 - b. How long has it been tested?
- 4) How do I input the crystal identity and location information?
- 5) How do I keep track of the location of my crystals?
- 6) Is there a log available with all my screening results?
- 7) Can the crystal and/or screening information be easily transferred to and used at another beamline or synchrotron source?
- 8) Can the software automatically determine crystal quality? If so,
 - a. How is this done?
 - b. What rating scheme is used?
- 9) Can the system automatically autoindex my crystals?
- 10) How many images can be collected from each crystal during screening? Can the angle between them be set?
- 11) Is there an option for the software to automatically mount and collect data from the best available crystal after screening?
- 12) Can the system automatically collect from multiple crystals with high screening ratings until a sufficient dataset is obtained?

Data Backup

- 1) What systems are available at each synchrotron?
- 2) How much time will I have to backup my data?
- 3) Could I bring and use my own firewire hard drive?
- 4) If I bring my own laptop, is it easy to use for backup?
- 5) Could I have my data moved to a long-term storage area? If so,
 - a. Could this be done automatically? If so would my data be written to this storage area whether I ask for it or not?
 - b. How would I retrieve my data and how long would it take?
 - c. Is there a way to share my data without having to give out my account password?
 - d. How secure is my data?
 - e. How safe is my data?
 - f. How long will it be stored?
 - g. Would I still need to do my own backups to take home?