Getting XAFS beamtime at the APS

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August 8, 2008

How do I get access to the APS?

All APS beamlines give at least 25% of the beamtime for General Users – open access to *any* researcher:

- Beamtime allocated by peer-review and open competition.
- Designed to bring in new people, keep access open to all.
- General User Beamtime can go to "local experts"
- Many beamlines give more than 50% General User time

The APS has three run cycles per year.

- Feb 1 to Apr 30
- Jun 1 to Aug 30
- Oct 1 to Dec 20

Proposals are due around the middle of the preceding run.

XAFS Beamlines at the APS

Beamline	% GUP	% XAFS	Notes
2-ID (XOR)	$> 50\%$	1/4	x-ray microprobe, XANES
4-ID (XOR)	$> 50\%$	1/2	XMCD, magnetic XAFS
5-BM (DNDCAT)	$= 25\%$	1/2	catalysis, enviro
9-BM (XOR)	$> 50\%$	all	can do S and Cl!
10-ID (MRCAT)	$= 25\%$	most	Catalysis, enviro, actinides.
11-ID (XOR)	$= 25\%$	some	time-resolved.
12-BM (XOR)	$> 50\%$	most	Catalysis, enviro, actinides.
13-BM (GSECARS)	$> 50\%$	1/4	geo / enviro
13-ID (GSECARS)	$> 50\%$	1/4	x-ray microprobe, geo / enviro
18-ID (BioCAT)	$= 25\%$	some	biological systems
20-BM (XOR/PNC)	$> 50\%$	all	general purpose XAFS
20-ID (XOR/PNC)	$> 50\%$	most	x-ray microprobe, geo / enviro, time-resolved.

XOR = APS run beamlines.

Proposal Contents

Proposals are read / rated based on

> Will this experiment result in a publication?

The proposals are rated by panels of scientists who read 20-30 proposals at a time.

Key Points for Successful Beamtime Proposals:

- 2-3 pages: Take the time to make it short.
- Describe "Importance of Science"
  Aim broadly – Proposal will be read by physicists, chemists, biologists.
- Describe Experiment well. Include details of samples to be measured, and details of experimental setup if non-standard.
- Consult with beamline scientist / collaborators before submitting proposal.

Matt's hints on Writing Beamtime Proposals

- Describe "Societal Impact" in Abstract – they love this.
- Describe what other measurements have been made on these samples.
- Be specific and explicit about:
  - Element(s) and Edge(s) to be studied
  - Concentrations of elements to be studied.
  - Transmission, Fluorescence, Multi-Element Detector
- Give literature references:
  Not your CV. Do not attach PDFs of published papers.
- Say you've taken this class! (Really!)
- If you're a student or postdoc:
  - say so.
  - list yourself as Spokesperson, not your advisor.
  - write the proposal yourself, with help from advisor / senior students.
- If you've had some beamtime and just "need more time", Include a plot of any data collected so far.
- List a 2nd choice beamline.

Proposal Scores, Lifetime and Aging

The Proposal Review Process gives:

Proposal Scores: 1 (highest) to 5 (worst)

Proposal Shifts: # of 8-hour shifts for next run and up to 2 years (6 runs).

- Average Score for XAFS Proposals: ≈ 2.2.
- Proposals that don't get time "Age Up" by 0.2 each run for 2 years, until they get time.
- At the APS: Proposals live for up to 2 years, until the allocated shifts are used.
  To get beamtime in more than 1 run for a proposal, you make a "Beamtime Request" for time in later cycles – no new proposal!!
- to continue work, you can copy-and-paste an old proposal to start a "new" proposal.

After you've submitted a Proposal

Most beamlines are oversubscribed – many 2× to 3×.

oversubscription = (requested days) / (available days)

- It may take a run cycle to get beamtime.
- You may get less time than you ask for.

Don't panic: it will become easier.

Once you are in the system, *everyone* here wants you to succeed (ie, publish!).

Most of these hints work for getting beamtime at other facilities.
