

Status and plans for the 1-ID upgrade

1-ID-E Construction Update

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1-ID History

- High-energy X-ray scattering
- High-heat load optics (MISSION ACCOMPLISHED)
- Polarized X-ray studies (SECTOR 4)
- Exact back-scattering beam-line (discontinued)
- Phase-Contrast imaging (SECTOR 32)



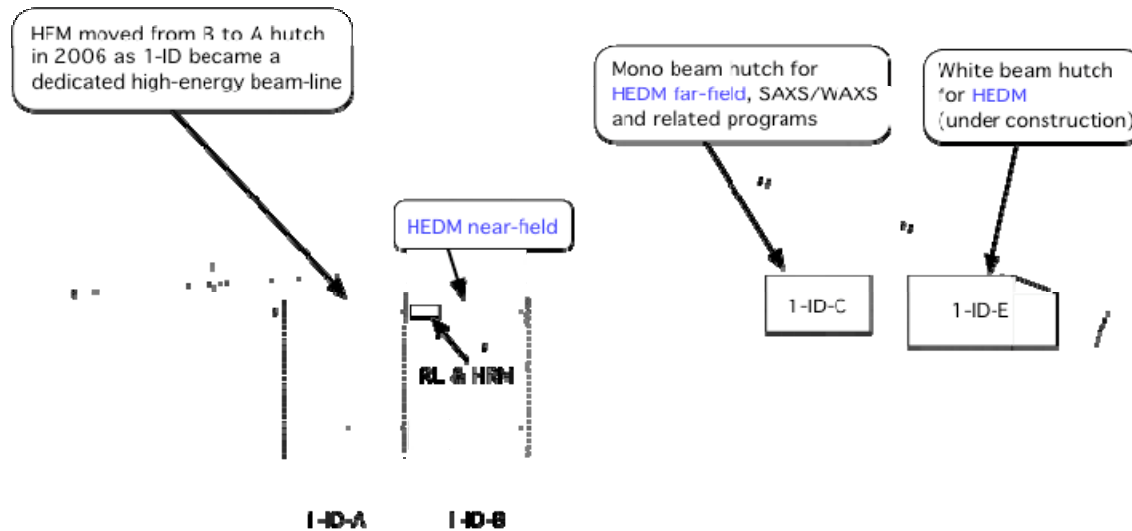
1-ID UPGRADE

Conceived in 2000 by Dean H. et al.

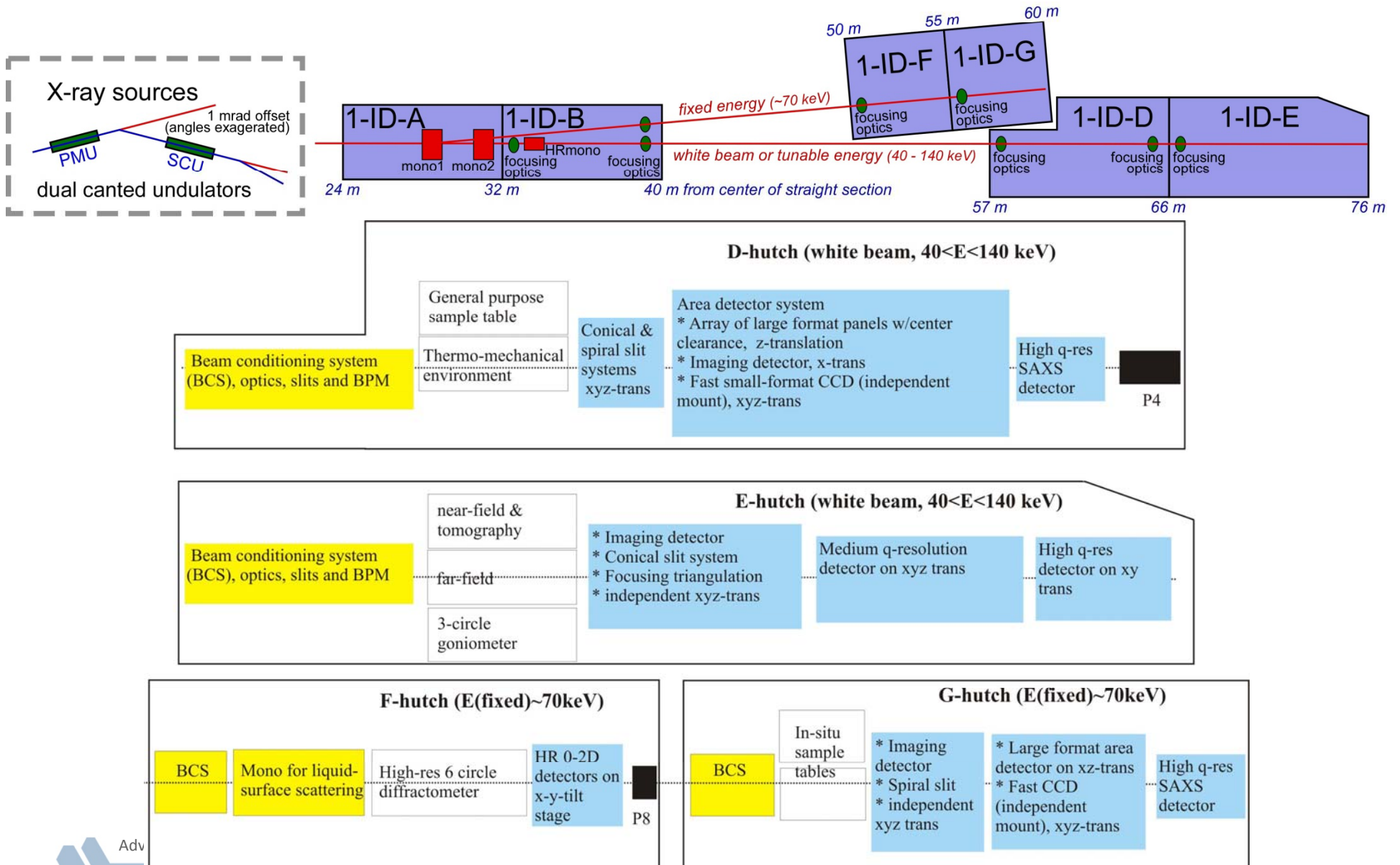
- Phase 1 Completed 2005-2006
- Phase 2a Ongoing (addition of 1-ID-E)
- Phases (2b & 3) Within scope of APS-U (D, F & G ...)

1-ID

Present Configuration



Planned APS-U @ 1-ID: high-brilliance at $E > 40\text{keV}$

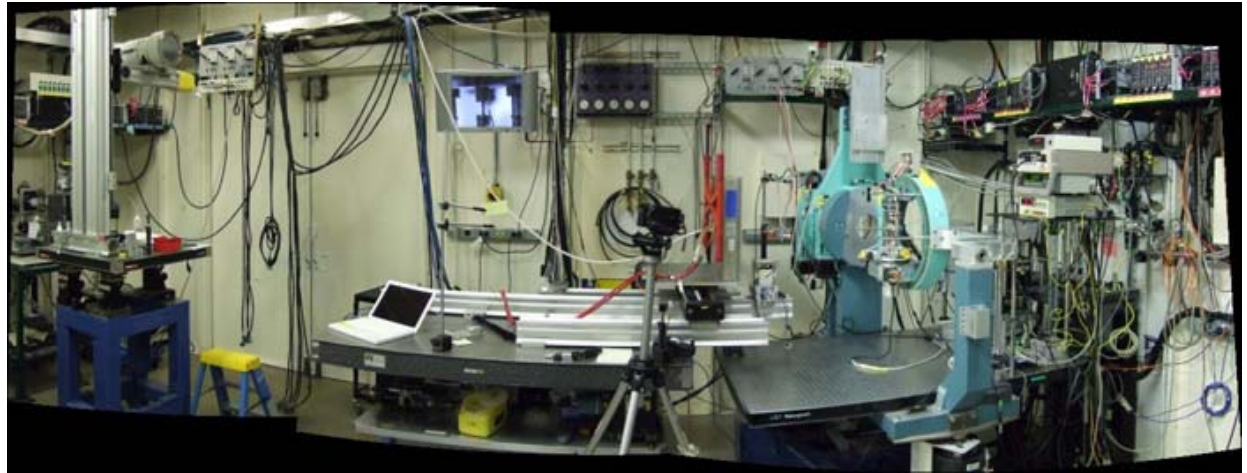


Near- and far-field combination

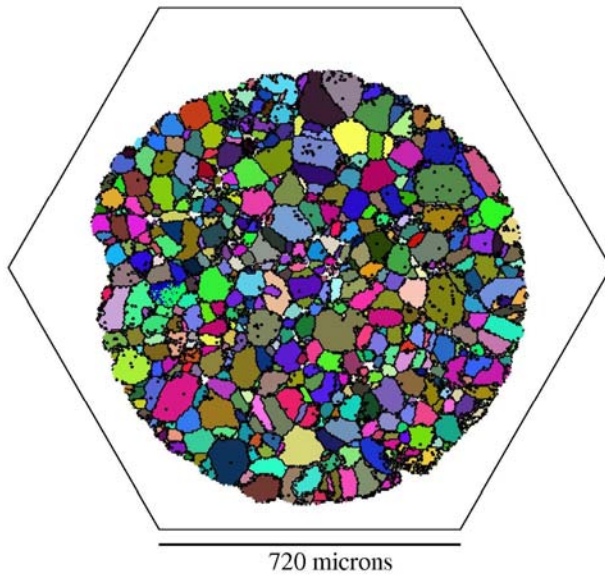
B-hutch near-field setup



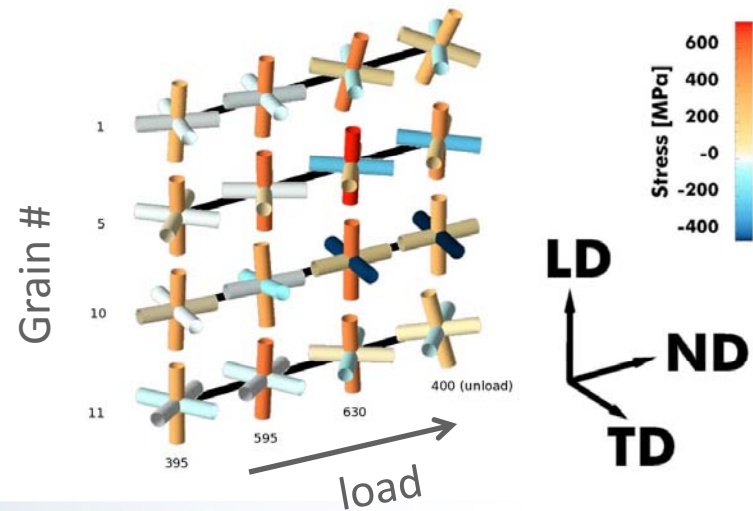
C-hutch far-field setup



Grain boundary topology



Stress tensors



1-ID-E construction status

- Wall & roof panels being installed (nearly complete).
 - Heavy work limited to shutdown days
- Other details (floor & roof trim, unistrut channels, lights, etc.) will be added in the coming weeks.
- Manual Beam Stop/Shutter (Expected in March. Installation planned for May.)
- Beam Transport (C-E) expected by end of March.
- Guillotines will be modified and installed in May.

1-ID-E Tentative Schedule

- Beneficial occupancy (est. early May)
- Beam transport & guillotine installation (est. May)
- PSS work (est. May-June)
- First Light (est. June-July)

Other 1-ID-E Components

- Crane
 - Procurement in progress
- Roof Access
 - Will house controls. Working on options to limit ladder footprint.
- Controls
 - Have some items (< 50%)
- Program Instrumentation
 - Working on design with engineering staff.
 - Existing infrastructure to be used for commissioning.