cosylab
CONTROL SYSTEM LABORATORY

Control systems engineering, instalation and consulting

M. Kobal, R. Sabjan, I. Verstovsek, M. Lipar, B. Vodopivec - Cosylab and Jozef Stefan Institute

About Cosylab

Cosylab is a spin-off company from Jozef Stefan Institute. It focuses on project oriented work and research mainly on the field of accelerator control systems though its research interests are being further expanded to projects involved with GIS, Distributed systems and Scientific project management tools.

1. Advanced Photon Source (APS) at Argonne National Laboratory (US)
2. Spallation Neutron Source (US)
3. National Radio Astronomy Observatory – NRAO (US)
4. Stanford Linear Accelerator Center - SLAC (US)
5. JLAB – Thomas Jefferson National Accelerator Facilty – TJNAF (US)
6. Los Alamos National Laboratory (US)
7. Geographic Data Support Ltd (UK)
8. Infoterra Ltd (UK)
9. Rutherford Appelton Laboratory (UK)
10. D.aresbury Laboratory (UK)
11. Diamond (UK)
12. Danfysik (DK)
13. Feinwerk-und-Messetechnik GmbH (DE)
14. Gesselshaft fur Schwerlonenforschung (DE)
15. European Southern Observatory ESO (DE)
16. DESY (DE)
17. Dortmunder Elektronen Speicherring Anlage (DE)
18. Forschungzentrum Karlsruhe (DE)
19. French Atomic Energy Commision (FR)
20. Paul Scherer Institut - PSI (CH)
21. Sinchrotrone Trieste (IT)
22. Iskra Emeco (SI)
23. JSI – Radiation monitoring database for Nuclear Plant (SI)
24. Hidria (SI)
25. IskraTel Telecommunication (SI)
26. AET (SI)
27. Slovenian Ministry of Agriculture Food and Forestry (SI)
28. Hitachi Zosen (JP)
29. Tokyo University (JP)
30. Hiroshima University (JP)
31. Riken (JP)
32. Nichizou Denshi Seigyo Kabushikigaisha (JP)
33. Australian Synchrotron Project - ASP (AU)

Accelerator control system

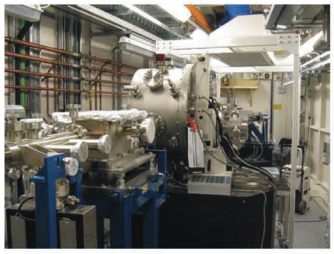
Control system development cycle at Cosylab:

- Writing specifications,
- Architecture design,
- Prototyping,
- Testing procedures,
- Implementation (coding),
- Documentation writing,
- Testing,
- Debugging,
- Delivering;

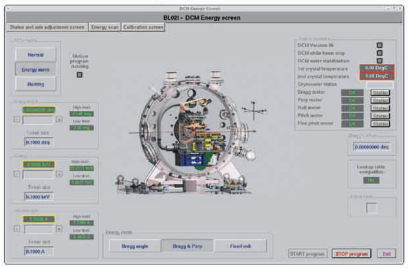
Resulted in numerous applications used worldwide:

- Alarm manager
- GUI
- Logger
- Trendind
- Scripting

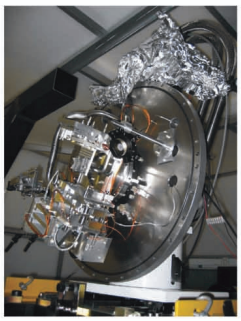
…



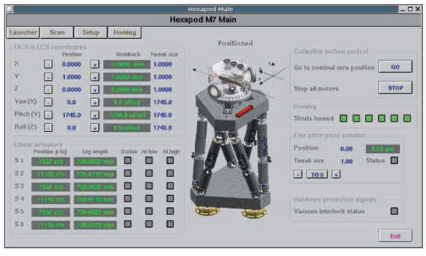
Double Crystal Monochromator



- Extracts the photons with appropriate energy from the white beam of the synchrotron radiation.
- Alterates Bragg angle which directly influences the conditions for Bragg reflection
- Features 3 crystal sets, each with two crystals where the beam is reflected by the Bragg Law.
- Additional motors are used to minimize the effect of the Bragg angle change on the beam position and its stability.



Hexapod application



- Hexapod offers six degrees of freedom positioning system with sub-micrometre precision and repeatability.
- It enables user selectable point of rotation in space and point to point scanning of all six axes.