Laser System Status

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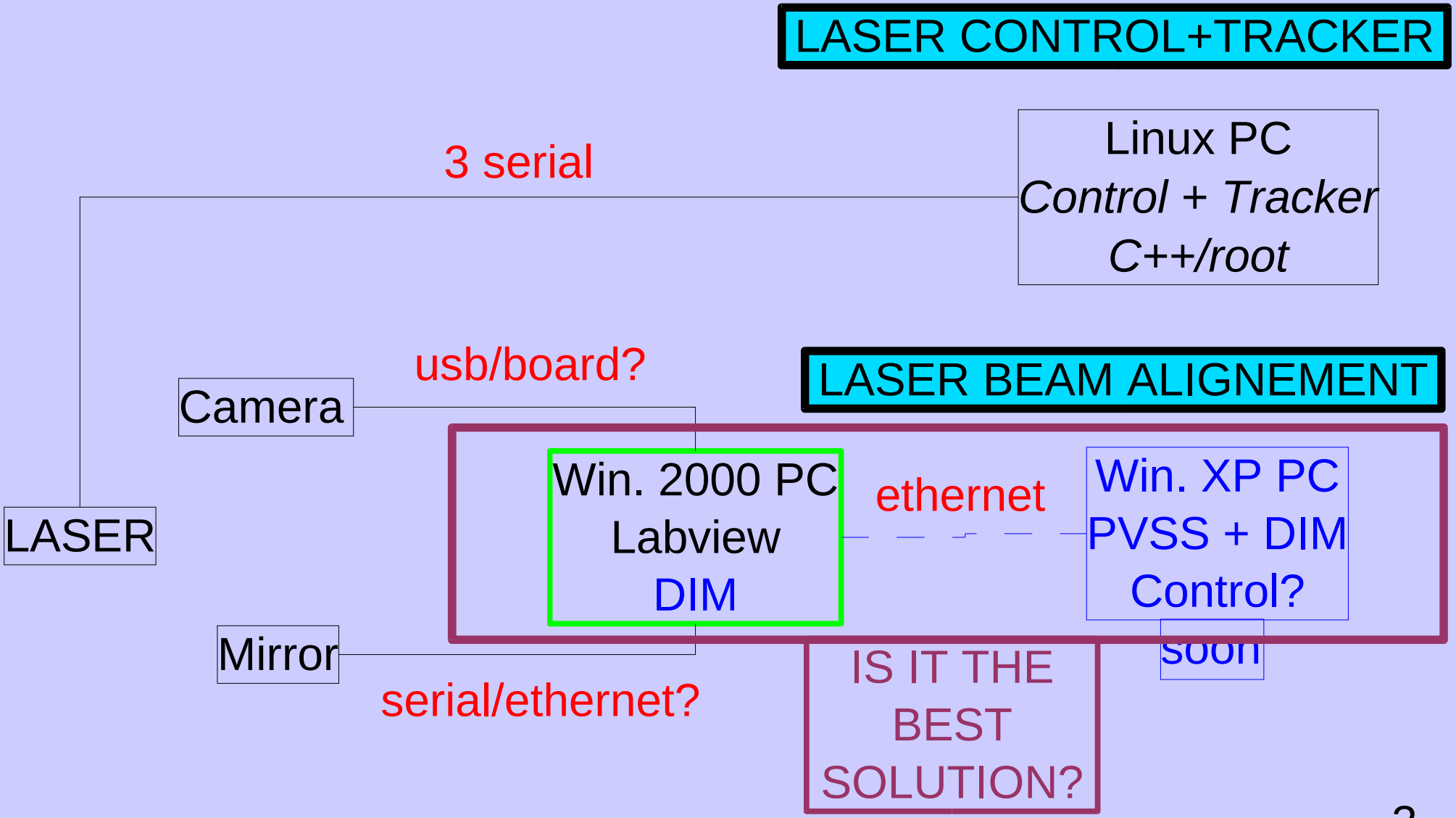
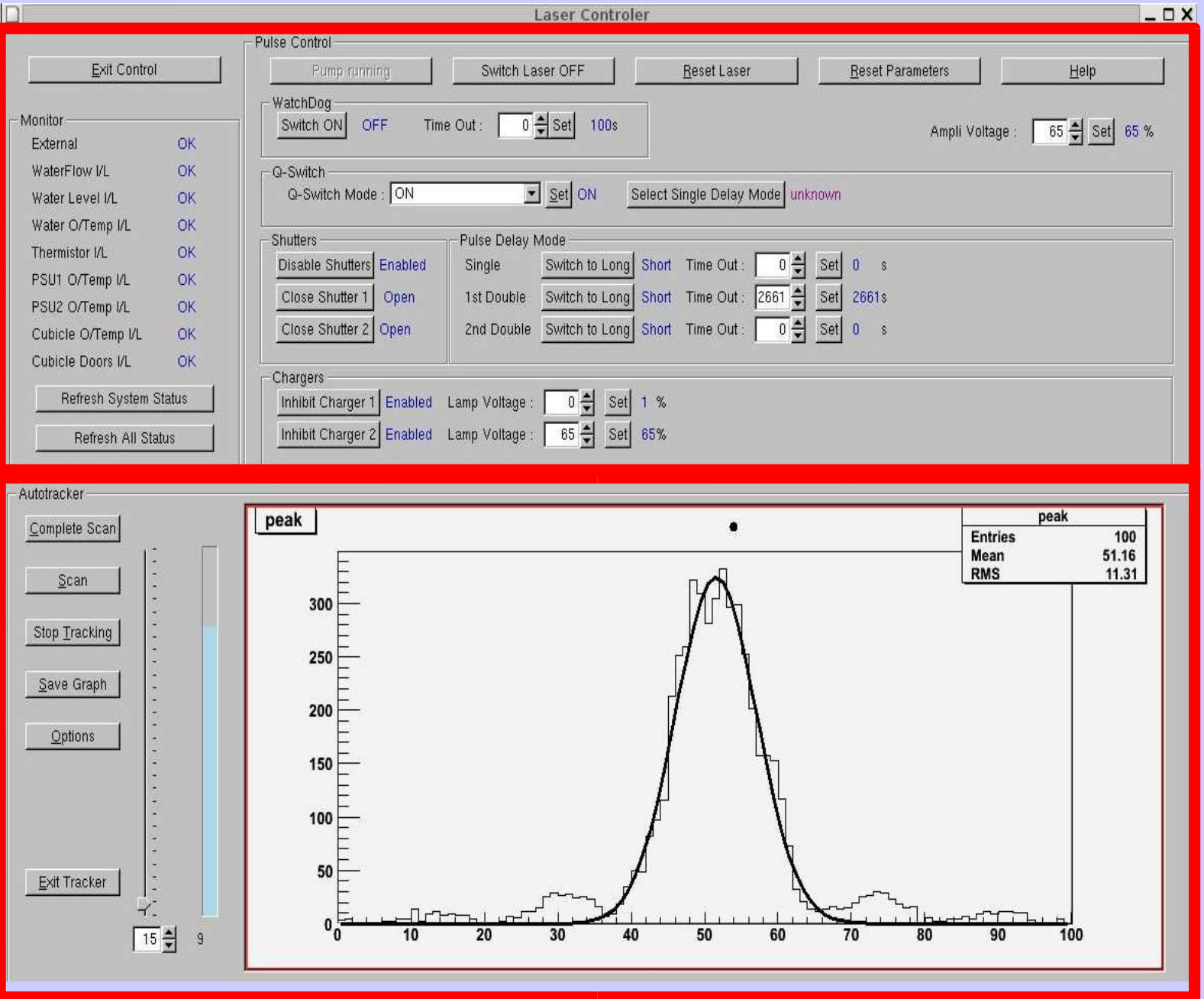
Outlines

- Laser Setup at Niels Bohr Institute
- Laser Control and Tracker
- Laser beam alignment issue
- Open questions
- Conclusion

Laser Setup at NBI



Laser Control+Tracker



Laser Control

Laser Tracker

Laser Control+Tracker

ONE DEDICATED PC
AND
DIRECT COMMUNICATION TO THE LASER

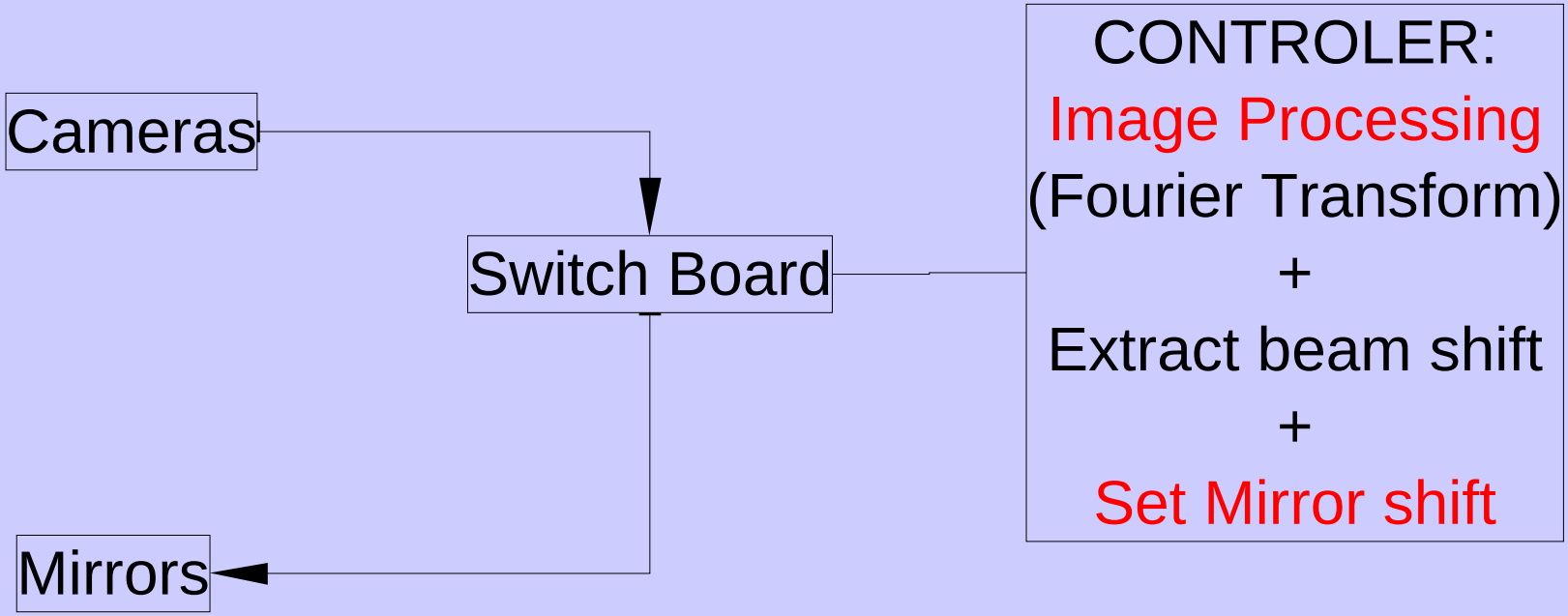
- Controls
  - Pump ON
  - Laser ON/OFF
  - Shutters Open/Close
  - Q-switch Trigger
  - Set Parameters:
    - Amplification Voltage
    - Trigger method...
- Monitors
  - Water temperature...

- Tracker:
  - 532 nm to 266 nm optimized by crystal angle
- Loop:
  - Monitor Gain
  - Adjust the angle

Mirrors and Cameras

NEED ONE DEDICATED PC
AND
DIRECT COMMUNICATION

- Aim: automatic alignment of the laser beam thanks to cameras and mirrors



Open questions

c++/root VS PVSS
Processing VS Monitoring

- Laser dos drivers ported to linux.
- Laser Control with PVSS?
  - Read status / Set parameters.
- Laser Tracker with PVSS?
  - c++ algorithm portable to PVSS?

- Image processing with PVSS?
- Drivers issues for Laser, Camera, Mirror under linux, Labview, Windows

Conclusion

- Laser Control + Tracker are working
- First good tests on image processing

- Work done under linux and c++/root code

- Need to choose tools : Labview, c++/root, PVSS