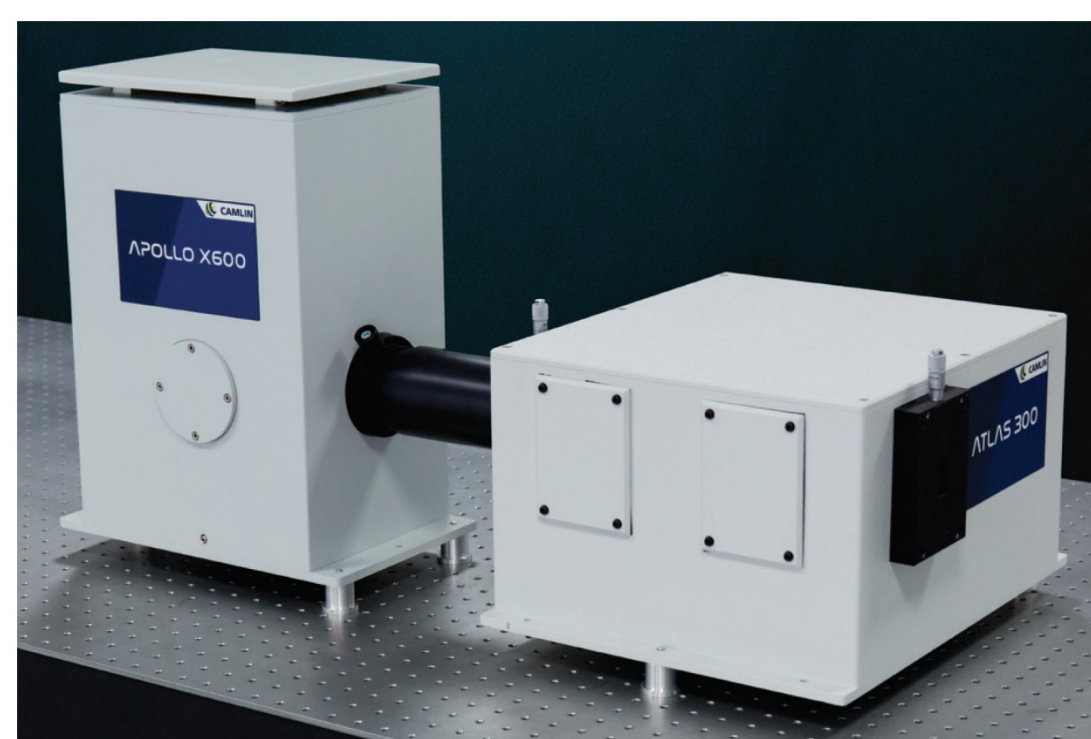


# Establishing a Laboratory for Optical Sensor Testing

A. Christov, S. Karpov and M. Prouza

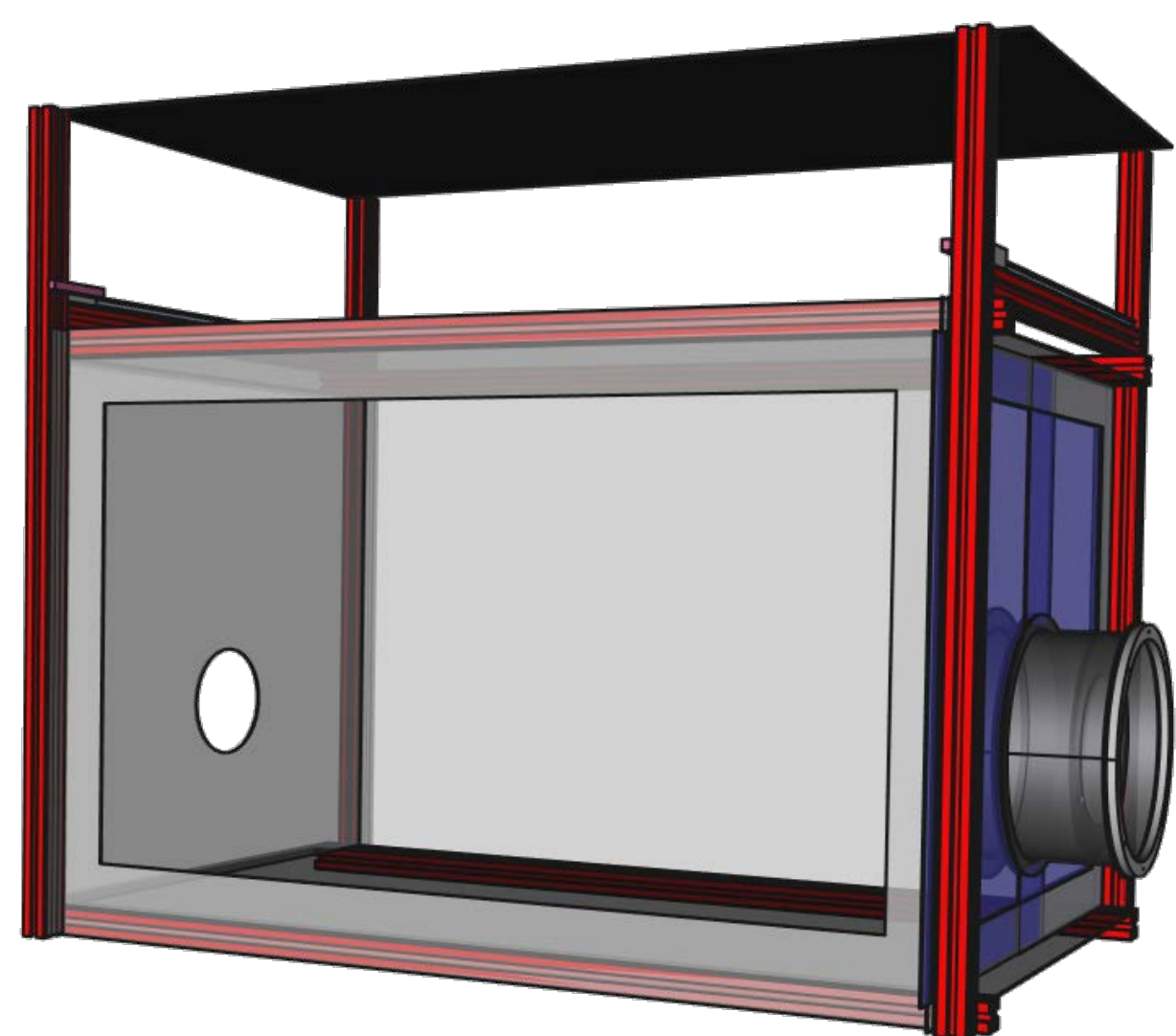
CEICO, Institute of Physics of the Czech Academy of Sciences

- Laboratory for complex testing of CCD and CMOS sensors or cameras
- The general layout follows the proven concept from BNL
- Status – the main parts delivered or ordered.



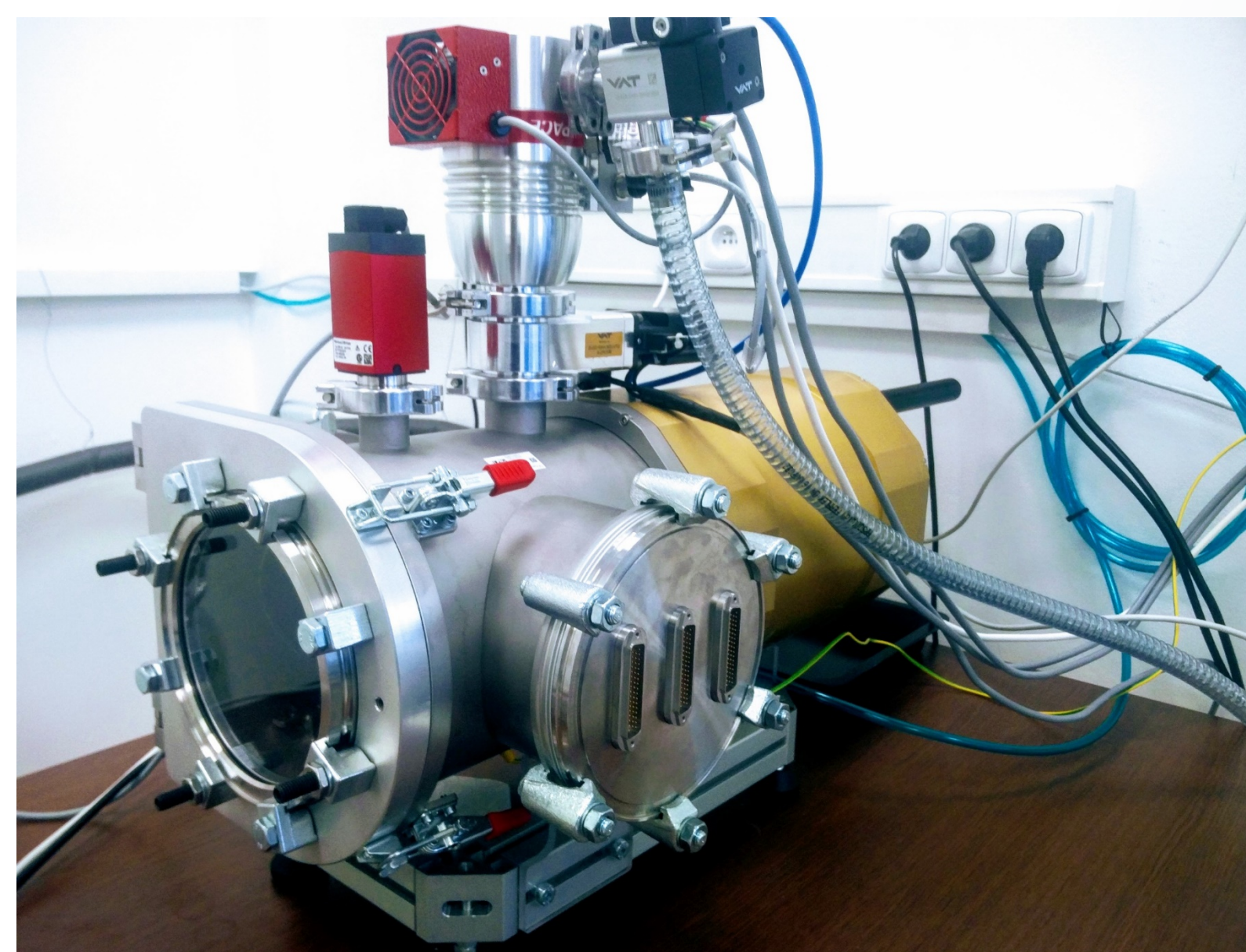
Light source:

- Xe lamp, monochromator, integration sphere and accessories
- Whole setup calibrated and delivered by Camlin Photonics



Light propagation box:

- Improving light uniformity
- Space for various optical components



Vacuum chamber & dewar

- LN2 for cooling
- Fully automated vacuum system with Siemens PLC

Readout example

- Archon CCD controller



## Readout and monitoring framework

Server

User script

- Initialization
- Measurement
- Store & Finish

Database

- All values periodically stored

Daemons

PicoA-meter 1

PicoA-meter 2

GPIB

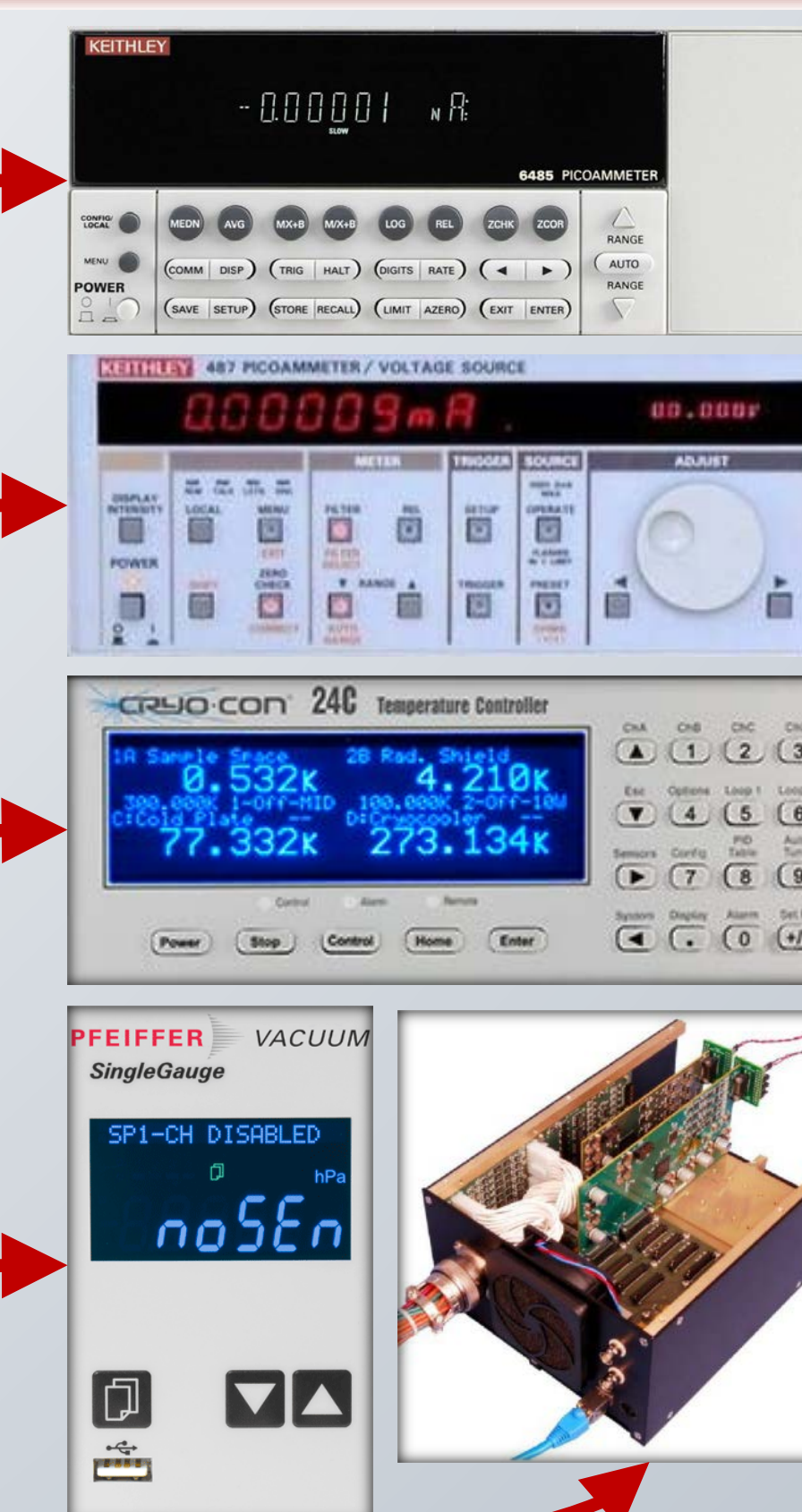
T. controller

Pressure

CCD contr.

**MONITOR**

Hardware connections  
(LAN, USB, GPIB, ...)



WEB interface

- Live values and graphs
- Warnings/Errors
- Command prompt
- Buttons for simple operations

Daemons

- All IO is asynchronous
- Daemons can be started and ended independently
- HW connection to instruments
- Can connect to any other daemon
- Can accept connection from daemon/user scripts
- Special daemon – MONITOR
  - Connects to all daemons
  - Web interface
  - Database storage



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Akademie věd ČR, v. v. i.