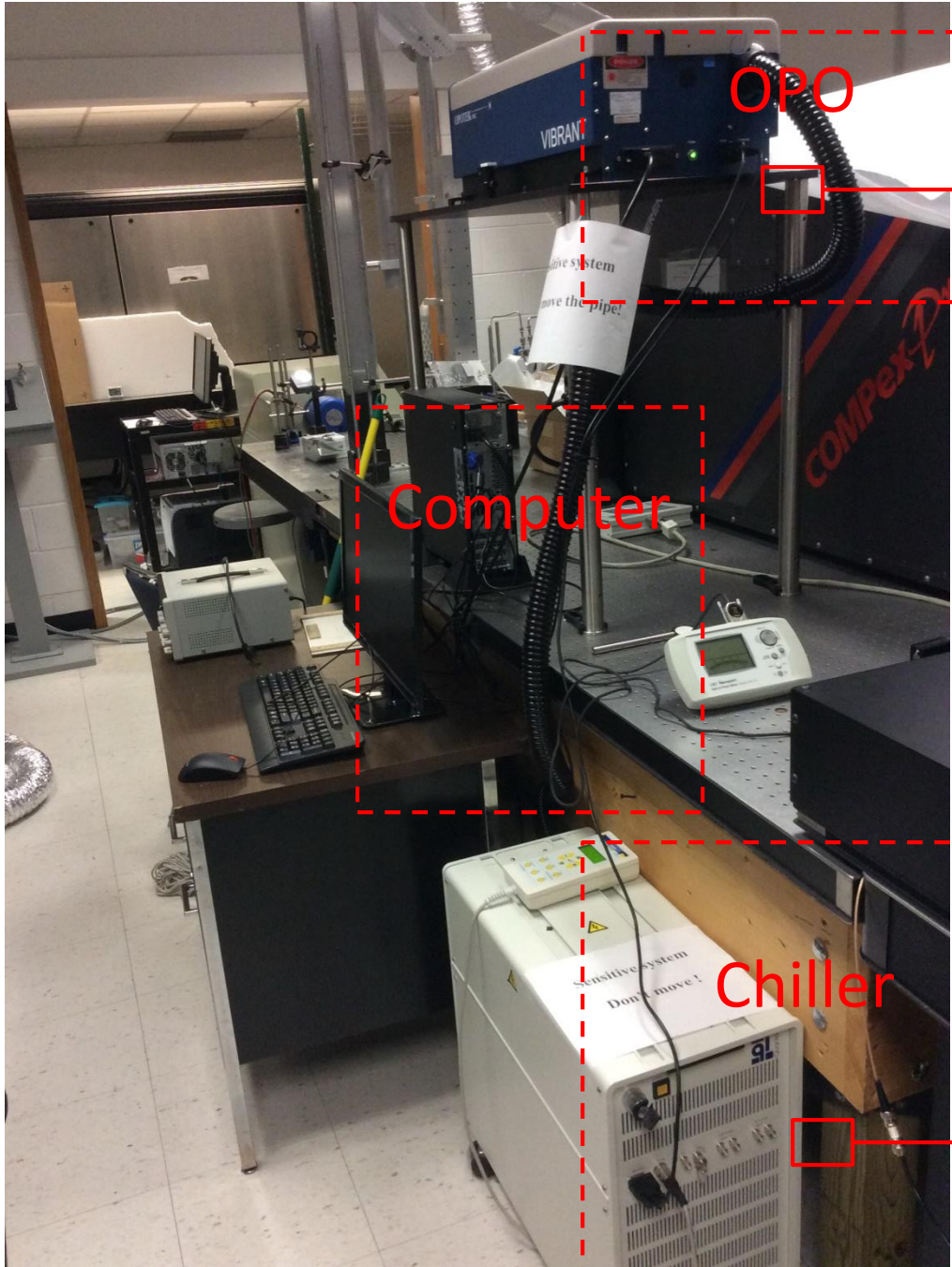


OPOTECK operation

By Chenfei



OPO

Button 1

Computer

Chiller

Key 1

Start up

- I. Turn on the pump laser power supply (Chiller Key 1) and wait for 20 minutes or more to stabilize the chiller temperature. Note: the chiller could work overnight.
- II. Turn on the computer.
- III. Press the OPO rear button (Button 1) to turn on the electronic control unit.
- IV. Start the OPO system control software and wait for subsystems to initialize one by one.
- V. After the initialization, run the flash lamp for 20 minutes to warm it up.
- VI. Use 'laser' for continued output, use '1 shot' for single pulse, use 'scan' for multi-wavelength scanning and 'burst' for multi-pulse emission at one single wavelength.
- VII. Move to needed wavelength by 'tune', Attenuate pulse energy by 'Energy(%)' and 'Attenuator', change repetition rate by 'Rep rate(Hz)'

Shut down

- I. Close the control software. Note: the motors will home at this step.
- II. Turn off the electronic circuit.
- III. Turn off the computer
- IV. Turn off the pump laser power supply

Note

- I. Do not move the pipeline between the chiller and the OPO! The movement of the pipeline will interfere the alignment inside OPO.
- II. Always close the control software before shut down the circuit! The software will home all the motors when shut down.

Main parameters

VIBRANT (HE) 355 LD	
Pump laser	Nd:YAG, Q-Switched
Pump wavelength	355 nm
Pulse Repetition Rate	10 Hz
Pulse length	5 ns
Beam diameter	6 (9) mm
Wavelength Tuning Range	210 - 2400 nm
Peak OPO Energy	30 (45) mJ
Spectral Linewidth	4 - 7 cm ⁻¹
Beam divergence	<2 mrad
Polarization	Signal Horizontal Idler Vertical

Measure and record the energy at 500 nm and needed wavelength