Yichao

For shutting off, go through the checklist in the following order

- ☐ Turn off equipments
- ☐ Turn off power supplies
- ☐ Turn off computers

Wait before everyone else finish their corresponding steps before starting the next one.
For powering up, go through the checklist in the following order

- ☐ Turn on computers
- ☐ Turn on power supplies
- ☐ Turn on equipments
- ☐ Check computer connection to devices

Also wait before everyone else finish their corresponding steps before starting the next one.

Equipments and power supplies are mostly located around the laser table on the library side.

1 Equipments

- ☐ Off ☐ On **Thorlabs temperature controller for Na Raman doubler**
  1st level above Na Raman and D2 seed lasers
  Record temperature settings

Setpoint	

Turn off check list

- ☐ Turn off
- ☐ Unplug power

Turn on check list

- ☐ Plug in power
- ☐ Check temperature setting
- ☐ Turn on

- Off On **Timebase driver for Na Raman and Na D2 (x2)**
  1st level above Na Raman and D2 seed lasers
  Record current and T1 settings

Raman Current	
Raman T1	
MOT Current	
MOT T1	

Turn off check list

- Turn off
- Unplug power

Turn on check list

- Plug in power
- Turn on
- Set current/temperature.
- Enable T1 survo
- Turn on current

- Off On **Oscilloscope for Na D2 lock**
  1st level above Na Raman amplifier
  - Unplug from wall

- Off On **MPB Raman amplifier**
  1st level above Na MOT beam path
  Turn off check list
  - Power off
  - Unplug from wall

  Turn on check list
  - Plug into wall
  - Power on

- Off On **Homebuilt lockbox for Na D2**
  1st level above Na seed
  Turn on-off together with the adjustable high voltage power supply above
  Record high voltage power supply output

Voltage	

Turn off check list

- Unlock
- Turn down the voltage of the high voltage power supply to 0
- Unplug high voltage power on lockbox (zip tie)
- Unplug 15V from lockbox (zip tie)
- Turn off high voltage power supply
- Unplug high voltage power supply from wall

Turn on check list

- Plug high voltage power supply into the wall
- Turn on high voltage power supply (make sure the output is 0)
- Plug in 15V to lockbox
- Plug in high voltage to lockbox
- Turn up the voltage of the high voltage power supply
- Check HV output

- Off On **SRS shutter driver for Na**
  1st level above Na D2 beam path, below Variac
  Switch off/on with the switch on the back.

- Off On **Variac for Na cell**
  Above Na D2 beam path
  Record temperature and voltage settings

Voltage	
Temperature	

  Turn off check list
  - ☐ Turn voltage to 0
  - ☐ Switch off
  - ☐ Unplug from wall

  Turn on check list
  - ☐ Plug into wall
  - ☐ Switch on
  - ☐ Turn the voltage up **SLOWLY** and monitor the temperature at the same time.

- Off On **Homebuilt lockbox for Na D1**
  1st level above Na D2 beam path
  Turn on-off together with the fixed high voltage power supply above

  Turn off check list
  - ☐ Unlock
  - ☐ Unplug high voltage power on lockbox (zip tie)
  - ☐ Unplug 15V from lockbox (zip tie)
  - ☐ Unplug high voltage power supply from walls

  Turn on check list
  - ☐ Plug high voltage power supply into the wall
  - ☐ Plug in 15V to lockbox
  - ☐ Plug in high voltage to lockbox
  - ☐ Check HV output

- Off On **Thorlabs temperature controller for Na D1 doubler**
  1st level above Na D1
  Record temperature settings

Setpoint	

  Turn off check list
  - ☐ Turn off
  - ☐ Unplug power

  Turn on check list
  - ☐ Plug in power
  - ☐ Check temperature setting
  - ☐ Turn on

- Off On **Thorlabs temperature controller for Na D1 seed**
  1st level above Na D1 seed
  Record temperature settings

Setpoint	

  Turn off check list
  - ☐ Turn off
  - ☐ Unplug power

  Turn on check list
  - ☐ Plug in power
  - ☐ Check temperature setting
  - ☐ Turn on

- Off On **Thorlabs current controller for Na D1 seed**

1st level above Na D1 seed

Record current settings

Current	

Turn off check list

- – ☐ Turn off
- – ☐ Unplug power

Turn on check list

- – ☐ Plug in power
- – ☐ Check current setting
- – ☐ Turn on

2 Power supplies

- Off On **Benchtop power supply**

2nd level above Na Variac

Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

Turn off check list

- – ☐ Unplug loads
- – ☐ Label and zip tie loads to the power supply
- – ☐ Turn off the power supply
- – ☐ Unplug from wall

Turn on check list

- – ☐ Plug into the wall
- – ☐ Turn on the power supply **Do NOT do this with loads pluged in**
- – ☐ Plug the load back in

- Off On **Homebuilt 24V power supply**

2nd level above Cs tweezer controllers

Turn off check list

- – ☐ Unplug load
- – ☐ Label and zip tie loads to the power supply
- – ☐ Switch off on the back

Turn on check list

- – ☐ Switch on
- – ☐ Plug the load back in

- Off On **Benchtop power supply**
  2nd level above Na D1 seed controllers
  Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

Turn off check list

- Unplug loads
- Label and zip tie loads to the power supply
- Turn off the power supply
- Unplug from wall

Turn on check list

- Plug into the wall
- Turn on the power supply **Do NOT do this with loads pluged in**
- Plug the load back in

- Off On **Benchtop power supply**
  2nd level above Cs tweezer, right of 24V power supply
  Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

Turn off check list

- Unplug loads
- Label and zip tie loads to the power supply
- Turn off the power supply
- Unplug from wall

Turn on check list

- Plug into the wall
- Turn on the power supply **Do NOT do this with loads pluged in**
- Plug the load back in

- Off On **Benchtop power supply**

1st level above Cs tweezer

Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

Turn off check list

- Unplug loads
- Label and zip tie loads to the power supply
- Turn off the power supply
- Unplug from wall

Turn on check list

- Plug into the wall
- Turn on the power supply **Do NOT do this with loads pluged in**
- Plug the load back in

- Off On **UPS**

2nd level above laser table

Turn off check list

- Turn off
- Unplug from wall

Turn on check list

- Plug into the wall
- Turn on

3 Computers

- Off On **Computer control box for 1.0**

Turn off check list

- (Do following three steps quickly)
- Turn off the box by flipping the switch on the front side of the box
- Unplug the high voltage (48V) power supply (circular plug) on the front side of the box. Then unplug the power supply itself fromm the outlet.
- Unplug the 12V board power supply. (L.T.E. one with a rectangular connector in the front)
- Unplug USB power on the front side near the fan.
- Zip tie the three unpluged powers to the computer control box.

Turn on check list

- Connect to 3.5G Windfrek clock generator from Tweezer1. Set frequency to 3.5G and amplitude to max.
- (Remove power connection zip ties and) Plug in USB power supply.
- (Do following three steps quickly)
- Plug in the 12V board power supply.
- Plug in high voltage power supply.
- Turn on the power switch of the box. The fans should start spinning.

Jon

For shutting off, go through the checklist in the following order

- Turn off equipments
- Turn off power supplies
- Turn off computers

Wait before everyone else finish their corresponding steps before starting the next one.
For powering up, go through the checklist in the following order

- Turn on computers
- Turn on power supplies
- Turn on equipments
- Check computer connection to devices

Also wait before everyone else finish their corresponding steps before starting the next one.

Equipments and power supplies are mostly located around the machine table facing the laser table or the computer area.

1 Equipments

- Off On **Agilent function generator for Na 1.0 switching**

1st level above TiSapph facing computers
Record parameters:

Ch1 Hi	
Ch1 Lo	
Ch2 Hi	
Ch2 Lo	

Turn off check list

- Turn off
- Unplug from wall

Turn on check list

- Plug into wall
- Turn on
- Set frequency, duty cycle, high/low voltages
- Set switching phase back

- Off On **2nd version Till's current controller for Cs 1.5 (x2)**
  1st level above 1.5 Cs MOT
  Record current values:

Top Current	
Bottom Current	

  Turn off check list
  - Turn off
  - Unplug power (zip tie to controller)

  Turn on check list
  - Plug in power
  - Turn on

- Off On **Thorlabs current controller**
  1st level below Cs 1.5 MOT drivers
  Unused
  Turn off check list
  - Turn off
  - Unplug power

- Off On **Homebuilt temperature servo for Cs 1.5 MOT (x2)**
  1st level above Cs 1.5 MOT
  Switch off/on the front switch

- Off On **Oscilloscope for Cs 1.5 MOT lock**
  1st level above Cs 1.5 MOT
  - Unplug from wall

- Off On **Homebuilt lockbox for Cs 1.5 MOT**
  1st level above Cs 1.5 MOT
  Turn off check list
  - Unlock
  - Unplug 15V from lockbox (zip tie)

  Turn on check list
  - Plug in 15V to lockbox

- Off On **Function generator for Cs MOT 1.5 lockbox**
  1st level under Cs MOT 1.5 lockbox Turn off check list
  - Record settings
  - Turn off
  - Unplug from wall

  Turn on check list
  - Plug into wall
  - Turn on
  - Restore settings

- Off On **HV amplifiers for 1.0 piezo mirrors**
  Above the space beween Na 1.5 beam path and NaCs 1.5 chamber
  Turn on-off together with the function generator below and the high voltage power supply on the left
  Turn off check list
  - Turn off the function generator
  - Unplug function generator output (zip tie and label)
  - Unplug HV power supply from the wall

  Turn on check list
  - Plugin HV power supply to the wall
  - Plugin function generator output
  - Turn on the function generator

- Off On **Pump**
  1st level above NaCs 1.0 chamber
  Turn off check list
  - Turn off
  - Unplug from walls

  Turn on check list
  - Plug into wall
  - Turn on (should be enough)

- Off On **Andor Camera for 1.0**
  Turn off check list
  - Switch off
  - Switch off chiller
  - Unplug camera power (zip tie to camera)

  Turn on check list
  - Plug in camera power
  - Switch on chiller
  - Switch on

2 Power supplies

- Off On **Benchtop power supply**
  2nd level above Cs 1.5 MOT controllers
  Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

  Turn off check list
  - Unplug loads
  - Label and zip tie loads to the power supply
  - Turn off the power supply
  - Unplug from wall

  Turn on check list
  - Plug into the wall
  - Turn on the power supply **Do NOT do this with loads pluged in**
  - Plug the load back in

- Off On **Homebuilt 24V power supply**
  2nd level above Cs 1.5 MOT controllers
  Turn off check list
  - Unplug load
  - Label and zip tie loads to the power supply
  - Switch off on the back

  Turn on check list
  - Switch on
  - Plug the load back in

- Off On **Benchtop power supply (x2)**
  1st level above Na 1.5 bean path
  Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

  Turn off check list
  - Unplug loads
  - Label and zip tie loads to the power supply
  - Turn off the power supply
  - Unplug from wall

  Turn on check list
  - Plug into the wall
  - Turn on the power supply **Do NOT do this with loads pluged in**
  - Plug the load back in

- Off On **Homebuilt $\pm 15,5$V power supply**
  2nd level above Na 1.5 beam path
  Turn off check list
  - Unplug load
  - Label and zip tie loads to the power supply
  - Switch off on the back

  Turn on check list
  - Switch on
  - Plug the load back in

- Off On **Benchtop power supply (x2)**
  2nd level above piezo mirror electronics
  Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

  Turn off check list
  - Unplug loads
  - Label and zip tie loads to the power supply
  - Turn off the power supply
  - Unplug from wall

  Turn on check list
  - Plug into the wall
  - Turn on the power supply **Do NOT do this with loads pluged in**
  - Plug the load back in

- Off On **Benchtop power supply**
  2nd level above NaCs 1.0 chamber
  Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

  Turn off check list
  - Unplug loads
  - Label and zip tie loads to the power supply
  - Turn off the power supply
  - Unplug from wall

  Turn on check list
  - Plug into the wall
  - Turn on the power supply **Do NOT do this with loads pluged in**
  - Plug the load back in

3 Computers

- Off On **Tweezer 2 computer**
  Check following devices
  - Andor camera

- Off On **Tweezer 3 computer**
  Check following devices
  - Software radio

Lee

For shutting off, go through the checklist in the following order

- Turn off equipments
- Turn off power supplies
- Turn off computers

Wait before everyone else finish their corresponding steps before starting the next one.
For powering up, go through the checklist in the following order

- Turn on computers
- Turn on power supplies
- Turn on equipments
- Check computer connection to devices

Also wait before everyone else finish their corresponding steps before starting the next one.

Equipments and power supplies are mostly located around the laser table on the computer area side.

1 Equipments

- Off On **PLL for 1.0 Cs MOT**

  Turn off check list

  - Unplug all signals (zip tie together)
  - Unplug 15V and 5V powers (zip tie together)

  Turn on check list

  - Plugin 15V and 5V powers
  - Plugin all signals
  - Apply settings according to note on Generic tab, Equipment Settings.

- Off On **PLL for 1.0 Cs Raman**

  Turn off check list

  - Unplug all signals (zip tie together)
  - Unplug 15V and 5V powers (zip tie together)

  Turn on check list

  - Plugin 15V and 5V powers
  - Plugin all signals
  - Apply settings according to note on Generic tab, Equipment Settings.

- Off On **Homebuilt temperature servo for Cs 1.0 MOT**

  1st level above Cs tweezer/MOT lasers
  Switch off/on the front switch

- Off On **1st version Till's current controller for Cs MOT**
  1st level above Cs tweezer/MOT lasers
  Record current value:

Current	

  Turn off check list
  - Turn off
  - Unplug power (zip tie to controller)

  Turn on check list
  - Plug in power
  - Turn on

- Off On **Cs 1.0 MOT lock box**
  1st level above Cs MOT lasers
  - Make sure the laser is unlocked.

- Off On **Novatech function generator**
  1st level above Cs MOT lasers Turn off check list
  - Save settings

  Turn on check list
  - Restore settings

- Off On **New Focus Cs Raman lasers drivers (2x)**
  1st level above Cs Raman lasers
  Record Temperature, Current, Piezo voltage
  Temperature is accessible in the menu under system status

F3 Current	
F3 Piezo Voltage	
F3 Temperature	
F4 Current	
F4 Piezo Voltage	
F4 Temperature	

  Turn off check list
  - Turn off
  - Unplug power

  Turn on check list
  - Plug in power
  - (Turn on)

- Off On **SRS shutter driver for Cs**
  1st level above Cs Raman lasers
  Switch off/on with the switch on the back.

- Off On **New Focus lock box for Cs Raman**
  1st level above Cs Raman lasers
  Unplug power.

- Off On **Homebuilt temperature servo for Cs tweezer**
  1st level above Cs tweezer
  Switch off/on the front switch

- Off On **2nd version Till's current controller for Cs Tweezer**
  1st level above Cs tweezer
  Record current value:

Current	

  Turn off check list
  - Turn off
  - Unplug power (zip tie to controller)

  Turn on check list
  - Plug in power
  - Turn on

- Off On **Thorlabs current controller**
  1st level below Cs tweezer driver
  Unused
  Turn off check list
  - Turn off
  - Unplug power

- Off On **Thorlabs temperature controller for Cs tweezer**
  1st level above Cs tweezer
  Record temperature settings

Setpoint	

  Turn off check list
  - Turn off
  - Unplug power

  Turn on check list
  - Plug in power
  - Check temperature setting
  - Turn on

- Off On **Intensity servo for Cs**
  1st level above Cs tweezer
  Unplug power

2 Power supplies

- Off On **Benchtop power supply**
  1st level above Cs tweezer/MOT lasers
  Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

  Turn off check list
  - Unplug loads
  - Label and zip tie loads to the power supply
  - Turn off the power supply
  - Unplug from wall

  Turn on check list
  - Plug into the wall
  - Turn on the power supply **Do NOT do this with loads pluged in**
  - Plug the load back in

- Off On **Homebuilt $\pm 15,5$V power supply**
  2nd level above Cs tweezer/MOT lasers
  Turn off check list
  - Unplug load
  - Label and zip tie loads to the power supply
  - Switch off on the back

  Turn on check list
  - Switch on
  - Plug the load back in

- Off On **Benchtop power supply**
  1st level next to Cs Raman driver
  Record voltage/current values:

Voltage	
Current	

  Turn off check list
  - Unplug loads
  - Label and zip tie loads to the power supply
  - Turn off the power supply
  - Unplug from wall

  Turn on check list
  - Plug into the wall
  - Turn on the power supply **Do NOT do this with loads pluged in**
  - Plug the load back in

- Off On **Homebuilt 24V power supply**
  2nd level above Cs Raman lasers
  Turn off check list
  - Unplug load
  - Label and zip tie loads to the power supply
  - Switch off on the back

  Turn on check list
  - Switch on
  - Plug the load back in

- Off On **Benchtop power supply for Cs Raman locking**
  2nd level above Cs Raman lockbox
  Record voltage/current values:

Voltage	
Current	

  Turn off check list
  - Unplug loads
  - Label and zip tie loads to the power supply
  - Turn off the power supply
  - Unplug from wall

  Turn on check list
  - Plug into the wall
  - Turn on the power supply **Do NOT do this with loads pluged in**
  - Plug the load back in

3 Computers

- Off On **Tweezer 1 computer**
  Check following devices
  - Thorlabs cameras
  - Na Raman amplifier

Jessie

For shutting off, go through the checklist in the following order

- ☐ Turn off equipments
- ☐ Turn off power supplies
- ☐ Turn off computers

Wait before everyone else finish their corresponding steps before starting the next one.
For powering up, go through the checklist in the following order

- ☐ Turn on computers
- ☐ Turn on power supplies
- ☐ Turn on equipments
- ☐ Check computer connection to devices

Also wait before everyone else finish their corresponding steps before starting the next one.

Equipments and power supplies are mostly located around the machine table facing the 1.5 table.

1 Equipments

- Off On **TiSapph**
  Turn off check list
  - ☐ Turn off pump, unplug from wall
  - ☐ Turn off controller, unplug from wall
  - ☐ Turn off chiller, unplug from wall

  Turn on check list
  - ☐ Plug into wall, turn on chiller
  - ☐ Plug into wall, turn on controller
  - ☐ Plug into wall, turn on pump

- Off On **Quantel Laser**
  1st level in the middle, facing 1.5 table
  Ask Frederic.

- Off On **Intensity servo for Na**
  1st level above Na tweezer, below 1.0 computer control box
  Unplug power

- Off On **1st version Till's current controller for butterfly laser**
  1st level above TiSapph
  Turn off check list
  - ☐ Turn off
  - ☐ Unplug power (zip tie to controller)

- Off On **Homebuilt temperature servo for butterfly laser**
  1st level above TiSapph
  Switch off/on the front switch

- Off On **PLL for 1.5 Cs MOT**

  Turn off check list

  – Unplug all signals (zip tie together)

  – Unplug 15V and 5V powers (zip tie together)

  Turn on check list

  – Plugin 15V and 5V powers

  – Plugin all signals

  – Apply settings ???

2 Power supplies

- Off On **Homebuilt 24V power supply**

  2nd level above NaCs 1.0 chamber, facing the drawers/wall

  Turn off check list

  – Unplug load

  – Label and zip tie loads to the power supply

  – Switch off on the back

  Turn on check list

  – Switch on

  – Plug the load back in

- Off On **Benchtop power supply for dispensers**

  1st level above NaCs 1.0 chamber

  Turn off check list

  – Unplug loads

  – Label and zip tie loads to the power supply

  – Turn off the power supply

  – Unplug from wall

  Turn on check list

  – Plug into the wall

  – Turn on the power supply **Do NOT do this with loads pluged in**

  – Plug the load back in

- Off On **Benchtop power supply for 1.5 computer control clock**

  2nd level next to 1.5 computer control box

  Record voltage/current values:

Voltage	
Current	

  Turn off check list

  – Unplug loads

  – Label and zip tie loads to the power supply

  – Turn off the power supply

  – Unplug from wall

  Turn on check list

  – Plug into the wall

  – Turn on the power supply **Do NOT do this with loads pluged in**

  – Plug the load back in

- Off On **Homebuilt $\pm 15,5$V power supply**

2nd level above TiSapph

Turn off check list

- Unplug load
- Label and zip tie loads to the power supply
- Switch off on the back

Turn on check list

- Switch on
- Plug the load back in

3 Computers

- Off On **Computer control box for 1.5**

Turn off check list

- (Do following three steps quickly)
- Turn off the box by flipping the switch on the front side of the box
- Unplug the high voltage (48V) power supply (circular plug) on the left side of the box. Then unplug the power supply itself fromm the outlet.
- Unplug the 12V board power supply. (L.T.E. one with a rectangular connector in the front)
- Unplug USB power on the front side near the fan.
- Zip tie the three unpluged powers to the computer control box.

Turn on check list

- Connect to 3.5G Windfrek clock generator from Tweezer1. Set frequency to 3.5G and amplitude to max.
- (Remove power connection zip ties and) Plug in USB power supply.
- (Do following three steps quickly)
- Plug in the 12V board power supply.
- Plug in high voltage power supply. The fans should start spinning.
- Turn on the power switch of the box.

Frederic

For shutting off, go through the checklist in the following order

- ☐ Turn off equipments
- ☐ Turn off power supplies
- ☐ Turn off computers

Wait before everyone else finish their corresponding steps before starting the next one.
For powering up, go through the checklist in the following order

- ☐ Turn on computers
- ☐ Turn on power supplies
- ☐ Turn on equipments
- ☐ Check computer connection to devices

Also wait before everyone else finish their corresponding steps before starting the next one.

Equipments and power supplies are mostly on the 1.5 rack.

1 Equipments

- ☐ Off ☐ On **Andor Camera for 1.5**

Turn off check list

  - ☐ Switch off
  - ☐ Switch off chiller
  - ☐ Unplug camera power (zip tie to camera)

Turn on check list

  - ☐ Plug in camera power
  - ☐ Switch on chiller
  - ☐ Switch on

- ☐ Off ☐ On **1.5 Feshbach coils**

Before power shutdown

  - ☐ Wrap exposed part in napkins to prevent condensations

- ☐ Off ☐ On **1.5 IGBT**

Before power shutdown

  - ☐ Wrap exposed part in napkins to prevent condensations

- Off On **Cooling water**

  Valves to close/reopen:

- Off On **HV amplifiers for 1.5 piezo mirrors**

  Top level of 1.5 rack

  Turn on-off together with the function generator below and the high voltage power supply above the 1.0 machine table

  Turn off check list

  - Turn off the function generator
  - Unplug function generator output (zip tie and label)
  - Unplug HV power supply from the wall

  Turn on check list

  - Plugin HV power supply to the wall
  - Plugin function generator output
  - Turn on the function generator

- Off On **Pump**

  Bottom level 1.5 Rack

  Turn off check list

  - Turn off
  - Unplug from walls

  Turn on check list

  - Plug into wall
  - Turn on (should be enough)

2 Power supplies

- Off On **Benchtop power supply**

2nd level (from the top) 1.5 Rack. Next to coil servo

Record voltage/current values:

Left Voltage	
Left Current	
Right Voltage	
Right Current	

Turn off check list

- ☐ Unplug loads
- ☐ Label and zip tie loads to the power supply
- ☐ Turn off the power supply
- ☐ Unplug from wall

Turn on check list

- ☐ Plug into the wall
- ☐ Turn on the power supply **Do NOT do this with loads pluged in**
- ☐ Plug the load back in

- Off On **Benchtop power supply**

Bottom level 1.5 Rack. Next to pump

Record voltage/current values:

Voltage	
Current	

Turn off check list

- ☐ Unplug loads
- ☐ Label and zip tie loads to the power supply
- ☐ Turn off the power supply
- ☐ Unplug from wall

Turn on check list

- ☐ Plug into the wall
- ☐ Turn on the power supply **Do NOT do this with loads pluged in**
- ☐ Plug the load back in

3 Computers

- Off On **Tweezer 4 computer**

Check following devices

- ☐ Andor camera
- ☐ Thorlabs camera