Zeiss LSM 710

Startup

1. Turn on the Main Switch (see image below, #1).
2. Turn on the Systems/PC and Components Switches (see image below, #2).
3. Power up the X-Cite short arc lamp (see image below, #3).
   *Note: the lamp should not be turned on/off in quick succession. Always wait ca. 20 min.*
4. Turn the key of the Argon laser power supply 90° (clockwise) from position 0 to 1 (see below, #4).
5. Turn on the PC (no image shown).
6. After about 5 min, switch the Lasos Argon laser control unit from 'idle' to 'run' (see image below, #6). Wait until the green and/or red LED on the Lasos control unit lights up. If the red LED shows up, turn the control knob counterclockwise until only the green LED is on.
   *Note: if you use only 488 nm at low power, you may leave it in 'idle' mode all the time.*
7. Start the software: double-click on the ZEN icon. In the Login dialog, select 'Start System'. Once ZEN is loaded, select the 'View' menu and check 'Show all (global)'.

![Image 1](image1.png)  ![Image 2](image2.png)  ![Image 3](image3.png)  ![Image 4](image4.png)  ![Image 5](image5.png)  ![Image 6](image6.png)
Shutdown

1. Switch the Argon laser from 'run' to 'idle' (see image below, #1).
2. Turn the key on the Argon laser power supply 90° counterclockwise from position 1 to 0 (see image below, #2).
3. Close ZEN. In the laser tool window popping up, turn off all lasers (see image below, #3). Turn off the computer.
4. Turn off the X-Cite lamp (see image below, #4).
5. Push the 'Load position' button on the touch panel (on the microscope table) to lower the objective (see below, #5). Remove the sample and clean oil objectives with lens cleaning paper.
6. Wait until the fan of the Argon laser has stopped. Then turn off the Systems/PC, Components and Main Switches (see below, #6).
7. Put the dust cover on the microscope.

Leaving the system for the next user

1. Switch the Argon laser to 'idle' mode (see image above, #1).
2. Push the 'Load position' button on the touch panel (see image above, #5). Remove the sample and clean oil objectives with lens cleaning paper.
3. In ZEN, close your images. If you have used the 561 and/or 633 nm laser, leave them running. Leave ZEN running.
4. Disconnect from servers:
   - HIVE: click on the HIVE icon. In the dialog popping up, select 'Disconnect'
   - VBC share: click on the 'Logout' icon
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Troubleshooting

ZEN hangs during startup

1. In the login screen, click on the triangle left to 'Boot Status' (see the image below, #1).

2. Check the messages in the expanding scroll pane (see the image below, #2).

3. If there's a message "No connection to realtime controller", open the the door of the RTC (black box left to the microscope), press the Reset Button (see image below, #3) and wait until ZEN resumes.
No excitation light while scanning

1. Check if the Argon laser is turned on (key in position 1, see step #4 in the 'Startup' chapter).
2. On the Main Power unit, check if the Laser key is in ON position (horizontal, see image below).

3. Check if the transmitted light column is in upright position (which activates a magnetic sensor beneath the column). If seated properly, a LED on the scan head should burn while scanning. If not, pull the transmitted light column to a fully upright position (see image below).

4. Check the Argon laser power supply for two red LEDs (POWER and INTERLOCK). If the INTERLOCK LED is off, exit ZEN, power off the power supply and turn it on again (ON/OFF switch beneath the thick cable. Do NOT use the Mains or Component Switches).

5. Contact the facility if the problem persists.