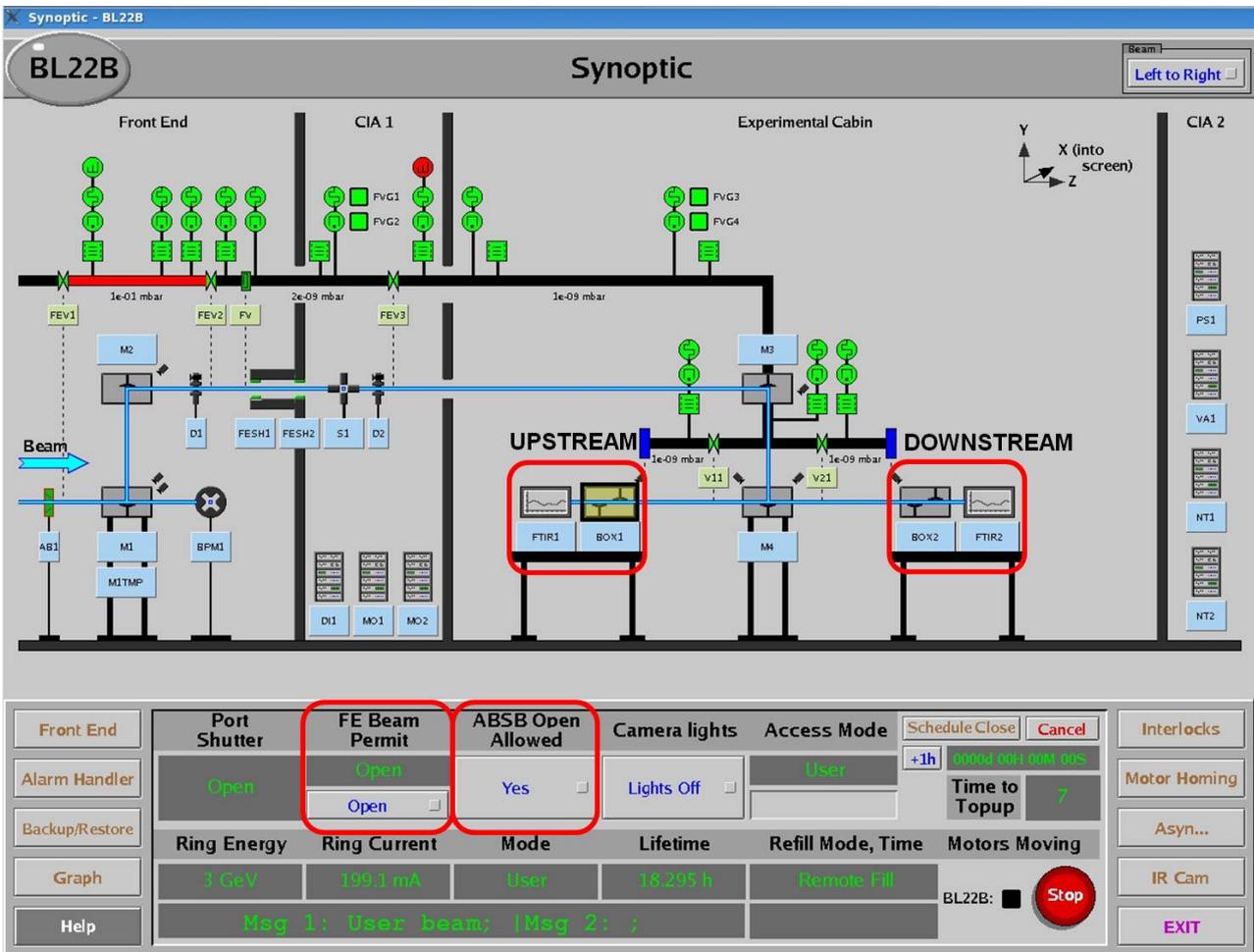


# SIGNAL OPTIMIZATION

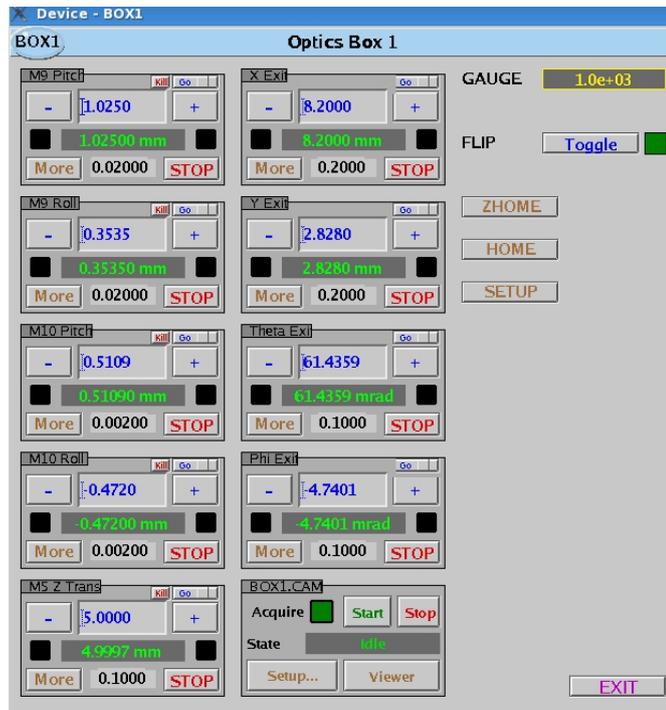
## SR beam optimization via EPICS Synoptic

In order to improve (optimize) both the intensity and stability of the signal you can adjust the fine position of the infrared beam by adjusting mirror positions in the secondary optics box. This is done by EPICS software via the Synoptic screen on the Linux PC in the control area or the laptops provided on each endstation.

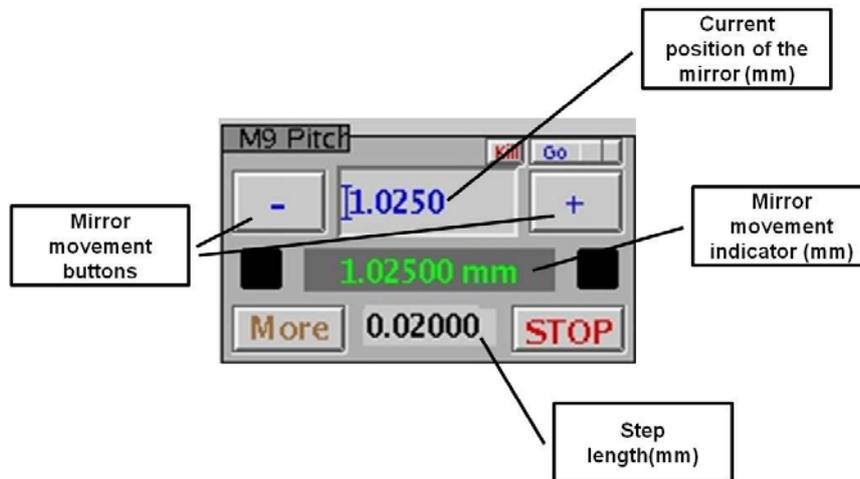


Click once on “box 1” or “box 2” respectively to the system you are using. The optics box window will appear. The downstream system (with box2) is the system nearest the end (widest part) of the beamline cabins. Be careful to make sure you are using the correct optics box as other users or staff could be working on the other system!

**IMPORTANT!** Make sure you make an accurate note of the current mirror positions (blue values in the left column of the image below) before you attempt any adjustment of the mirror settings.



Here are the controls for altering the positions of mirrors M9 and M10, horizontally and vertically (pitch and roll). M5 mirror can only be translated in one direction and we do not recommend changing this setting.



- Choose the step size and move the position of the beam by pressing either – or + for particular mirror and movement type and observe how the beam intensity and stability changes.
- First start adjusting M10 mirror using both pitch and roll with small steps (0.001 – 0.005 mm). It is easier to maximize the signal amplitude on one axis, then use the other axis to get best stability and increase counts further. If this does not improve the quality of the beam significantly, use bigger steps (0.01 – 0.05 mm) and / or try adjusting M9 (pitch and roll). If you get into difficulty, return the motors to the original positions and phone the beamline staff on-call via 8787 during normal on-call hours (agreed with your local contact).