

Engineering Physics Reach Hazards Safety Report

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A. Potential Project Hazards:

Radiation: Laser - Medium power, 10mW, continuous visible (633nm) lasers are used in the lab. Exposure to high power laser radiation is dangerous considering the potential damage to eyes and skin. Laser used shown in figure 1.

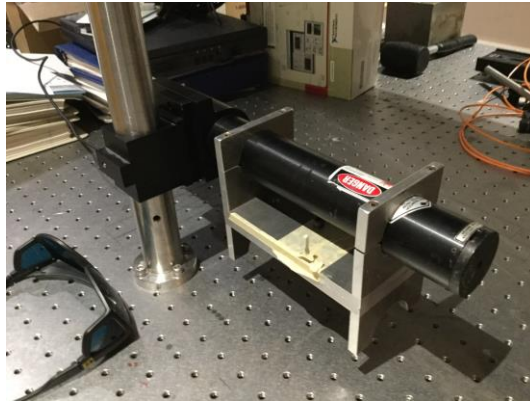


Figure 1: 633nm 10mW continuous laser used in JCC lab

Very Bright Light: The use of lasers or high power light sources may be required and could potentially damage the eyes.

High Temperature devices: (White light sources) – High intensity white light is used to illuminate the target

Mechanical - The use of machine tools may be required.

B. Operating Procedures:

Radiation: Laser – The appropriate laser safety glasses are to be used at all times when laser is in operation. The glasses must have an OD of >1 for the range including 633. Glasses used shown in figure 2, with OD of 3. If others are present in the lab they must be informed of the work being done and the potential hazards. All others in the lab will be required to wear the appropriate PPE including protective goggles as well. Efforts will be made to contain any laser radiation within the lab such as black covers on doors and windows, and enclosure around the devices used. Correct signage is posted on all entrances to the lab, figure 3.

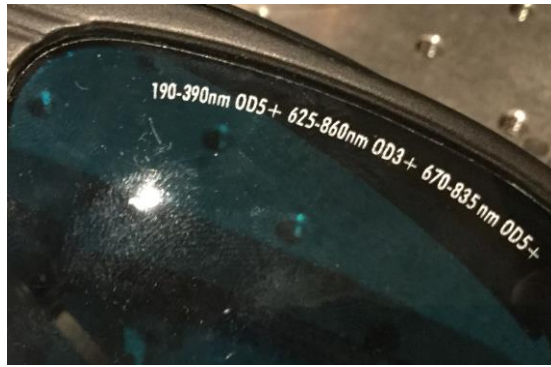


Figure 2: Protective eye wear used in JCC lab. OD3 at 633nm.



Figure 3: Danger signs posted at every entrance

Very bright light – whenever working near bright light sources the appropriate eye protection and will be worn

High temperature devices – Manuals will be consulted before the use of the lights. Care will be taken to ensure the lights are not operated near anything that could be potentially combustible or meltable. Care will be taken to avoid potential burns while irons are in operation. Lights will be unplugged whenever not in use.

Protective Clothing in Lab - closed toe shoes, lab coats, gloves, and protective eyewear should be worn in the lab.

Mechanical – appropriate training will be attended for the use of any machine tools that may be required. Manuals will be consulted before the operation of any machine tools.

C. Emergency Procedures

In case of fire, indicate the causes of fire and acquire the corresponding fire extinguishers located besides the entrance doors. If the fire is large, alert surrounding staff, pull the fire alarm, and evacuate the building from the exit to JCC main floor.

For accidents involving lasers, block the laser beam or turn off laser first to reduce eliminate the possibility of causing further damage or harm to others. The supervisor, Dr. Fang, and EOHSS LSO designate, Dr. Hayward (Deputy Dr. Diamond), should be contacted. An incident report should be filed with the department as soon as possible following any accident