Engineering Physics/C.E.D.T Research Hazards Safety Report

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A) Potential Hazards

Radiation:

High power pulse lasers are used in our lab including 355nm (300ps pulse duration, 30 uJ, 1KHz repetition rate), 405nm and 475nm (<100ps pulse duration, 1~3uW, up to 80MHz repetition rate). High power continuous UV LEDs also are used with wavelength of 360nm, 375nm, 380nm, 400nm. The UV laser light is in visible which is very dangerous to cause damage for eyes and skin.

Electrical:

High Voltage Enclosed (Laser sources, PMT high power supply, enclosed by manufacturer). The PMT high voltage supply output is between 2000V to 3000V with low current which will cause shock

Biohazards:

Fluorescence dyes, human and animal tissue sample (NADH, FAD and brain tumor sample) are used in my experiments.

B) OPERATION PROCEDURES

Radiation system operation:

The right goggle should be taken to protect eyes. All peoples in the experiment room should wear goggles.

I also need enclosed the laser experiment in box to avoid damage other people, also need ware other people take the gaggle if they are in the lab. Do not look the light straightly for UV LED.

Electrical operation:

Try to avoid do the experiment alone in the lab especially after working time.

Before starting the system, please check all electrical cable to make sure no cable loosed.

Biohazards:

Get MSDS of each chemical and biological sample.

Prepare the sample following their standard procedures.

Take the gloves, safety glasses.

Clean hands after finish experiment.

Keep the sample in the safety place

C) EMERGENCY PREPARATION

For immediate assistance, dial 88 on campus. then contact with supervisor.
For laser accidents, block the laser beam or turn off laser at first.
For biological accidents, clean hands at first.