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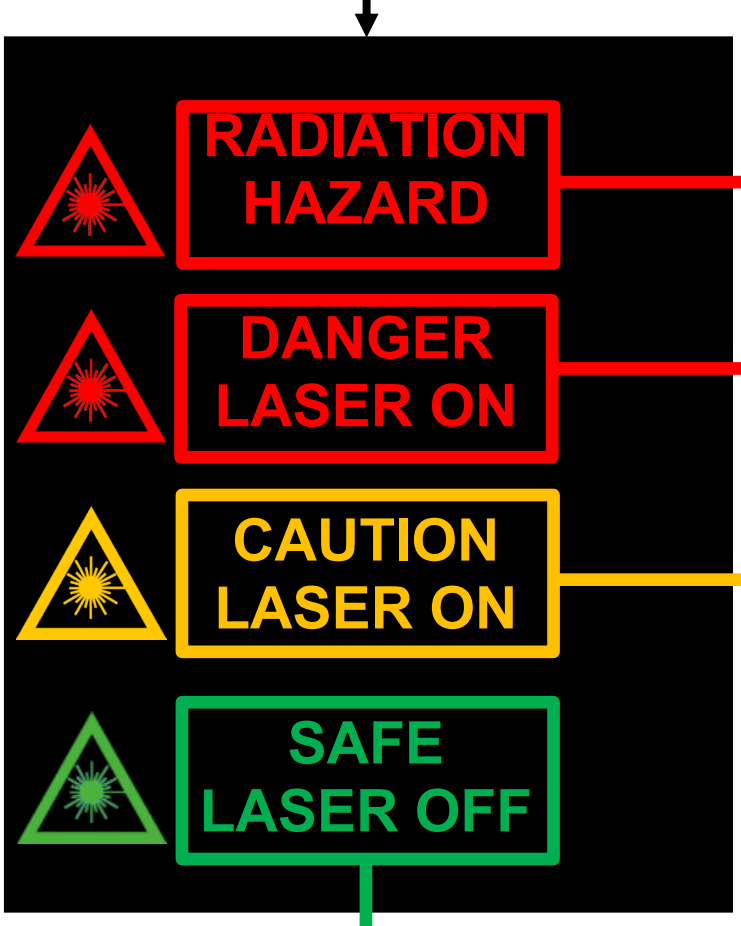
ZEUS

ZEUS Laser Safety Warning Sign Operational Mode Definitions, and Rules for Entering Laser or Target Area(s)

DISCLAIMER: All personnel (including, but not limited to: University employees, visitors, and independent contractors) are required read the following laser safety warning sign operational mode definitions, and abide by the rules listed below, **prior** to entering the ZEUS clean room (Room #: 1003), Target Area 1 (Room #: 1019), Target Area 2 (Room #: 1023), and/or Target Area 3 (Room #: 1003B).

These rules are designed to bring awareness to and protect such individuals from health hazards, when accessing the ZEUS facility; hence, regulatory compliance is mandatory. Failure to comply with these rules may result in consequences (including, but not limited to): laser eye injury, restricted access to ZEUS experimental areas, or revoked access from the ZEUS facility.

Figure 1: Laser Safety Warning Sign



Operational Mode: "RADIATION HAZARD"
Definition(s): Shots are being fired on target.

Rules to Enter: **DO *NOT* ENTER THE RELEVANT SHOOTING TARGET AREA(S), OR THE CLEAN ROOM.**

Operational Mode: "DANGER LASER ON"
Definition(s): At least one ZEUS pump laser is firing, and there is at least one *unblocked* beam, propagating in free space.

Rules to Enter: In order to enter an area within the ZEUS facility under these conditions, one must wear laser safety goggles with an optical density (O.D.) of 7+, for the following wavelengths: λ = 527 nm, λ = 532 nm, λ = 800 nm, λ = 810 nm, λ = 1053 nm, and λ = 1064 nm (as seen in Figures 2 and 3, below).

Figure 2

KENTEK KPG-6401G
Laser Safety Goggles

Figure 3

KENTEK KXL-6401
Laser Safety Goggles

Operational Mode: "SAFE LASER OFF"
Definition(s): No ZEUS pump lasers are firing; however, a Class III(a) alignment laser diode, with a wavelength in the visible range (e.g. a HeNe laser, which emits red light) may or may not be on.

Rules to Enter: No laser safety goggles are strictly required, in order to enter an area within the ZEUS facility under these conditions; nevertheless, hypervigilance of one's surroundings (including the existence of any potential visible alignment laser beam paths) is highly recommended.

Operational Mode: "CAUTION LASER ON"
Definition(s):
(1) At least one ZEUS pump laser is firing, but the beam is blocked by an energy meter, or high-powered beam dump.
(2) No ZEUS pump lasers are firing, but at least one Class III(b) or Class IV infrared (I.R.) alignment laser diode is on.

Rules to Enter: In order to enter an area within the ZEUS facility under these conditions, one must wear laser safety goggles with an optical density (O.D.) of 4+, for the following wavelengths: λ = 800 nm, and λ = 810 nm (as seen in Figure 3, above, and Figures 4 and 5, below).

Figure 4

NoIR DI2
Laser Safety Goggles

Figure 5

Laservision Alexandrite
Laser Safety Goggles

Locations of Laser Safety Goggles: The laser safety goggles (as pictured in Figures 2-5, above) may be found in the following ZEUS locations:

(1) small suiting/gowning area (Room #: 1003-C1)
(2) Laser Control Room/large gowning area (Room #: 1003-C4)
(3) Experimental Control Room (Room #: 1009)

v1.2; Last updated on: February 13, 2023