

Laser safety at TRIUMF

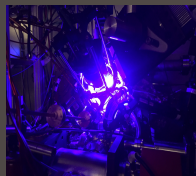
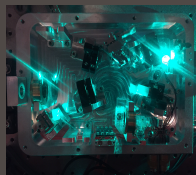
Matthew Pearson

TRIUMF

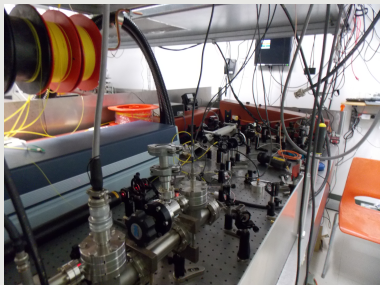
September 22, 2017

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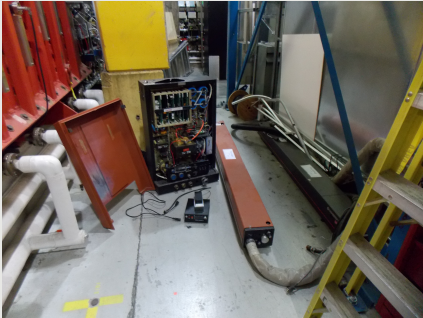
Lasers used to reside in labs ...





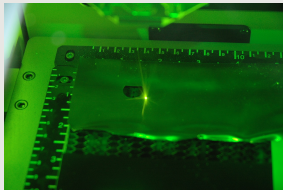


Decrease in size over the years

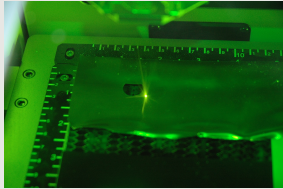


Decrease in size over the years



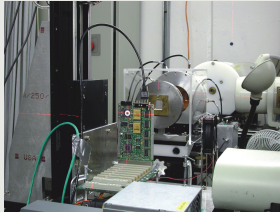


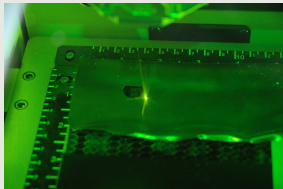
cutting targets



cutting targets

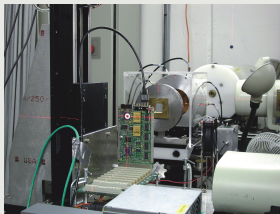
Aligning experiments



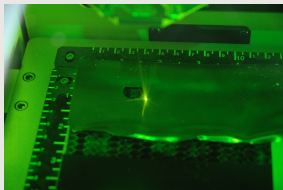


cutting targets

Aligning experiments

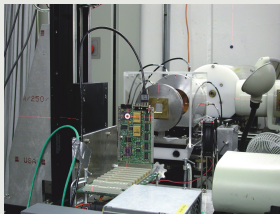


locating equipment



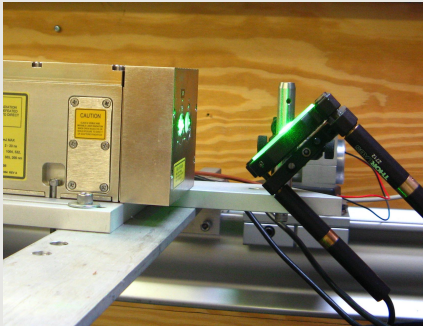
cutting targets

Aligning experiments

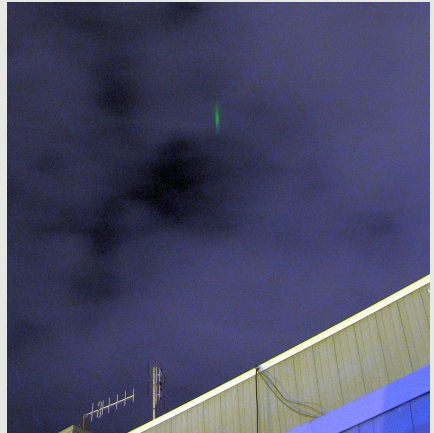


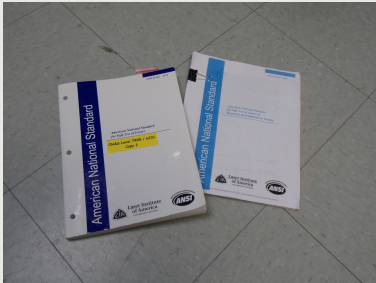
locating equipment

Even authenticating bank notes

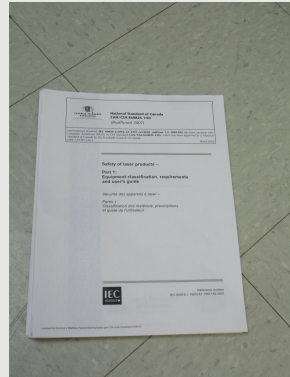


U.B.C. Geology
BIG GREEN LASER

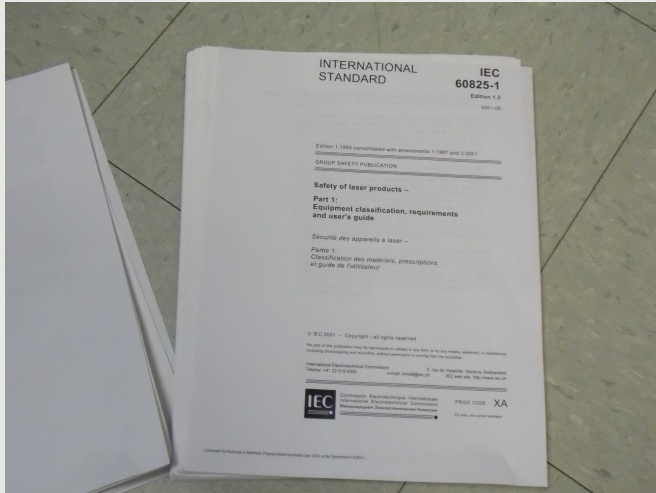




ANSI Z136



CSA 60825



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TRIUMF

Safety Note



SAFETY NOTE 6.3.0:

Laser Safety at TRIUMF

Prepared by: A. Johnson, L. Moritz

4004 Westbrook Mall
Vancouver, B.C.
Canada V6T 2A3



TRIUMF

Safety Note



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“At TRIUMF, all lasers greater than Class 1 must be registered with the TRIUMF Occupational Health and Safety Officer (OH&S).”

COPY

TRIUMF LASER PERMIT

ALL CLASS 2B AND 3B LASERS USED AT TRIUMF ARE REQUIRED TO HAVE A PERMIT FROM TRIUMF OCCUPATIONAL HEALTH & SAFETY OFFICER (OH&S). PLEASE REFER TO THE TRIUMF WEBSITE FOR FURTHER INFORMATION ABOUT APPROVALS REQUIRED FOR THE SAFE OPERATION OF LASERS AT TRIUMF SEE TRIUMF SAFETY NOTE 6.3.0.

NOTE: COMPLETED BY APPLICANT

APPLICANT NAME: Dr. J. Doe
 POSITION: Physicist
 INSTITUTION: TRIUMF
 PROJECT: ATLAS
 I have read and understand the Laser Safety Rules published by The Laser Institute of America and understand the responsibilities under ANSI standards (Class 2B, Class 3B, Class 4) and I agree to meet the responsibilities and address my duties according to these standards.

APPLICANT SIGNATURE:
[Signature]

APPROVAL INFORMATION

LOCATION: Room 101
 APPROVED BY: [Signature]
 DATE: 10/10/10

The above applicant must be identified together with a Safety Analysis Report (SAR) to the appropriate Division Head/Division Director for approval (numbered) before the permit can be issued. The Safety Analysis Report must address the following:

- Detailed specifications of lasers (including type, line characteristics, power level and beam configuration)
- Control and control area (including layout drawing)
- Method of compliance with ANSI standards (Class 2B, Class 3B, Class 4, etc.)

REVIEW BY OH&S AND APPROVAL BY DIVISION HEAD

MEMBER/PERSON	ISSUE DATE	REVIEWED BY	APPROVED BY

FORM TR-640-07-01 Rev. 0 13-03-03

Laser safety for ISAC I room 117

M.R Pearson August 23, 2012

Laser safety report for the laser spectroscopy laboratory (ISAC I room 117)

1 General definitions

Area Laser spectroscopy laser laboratory
ISAC I room 117, local 7468/6396

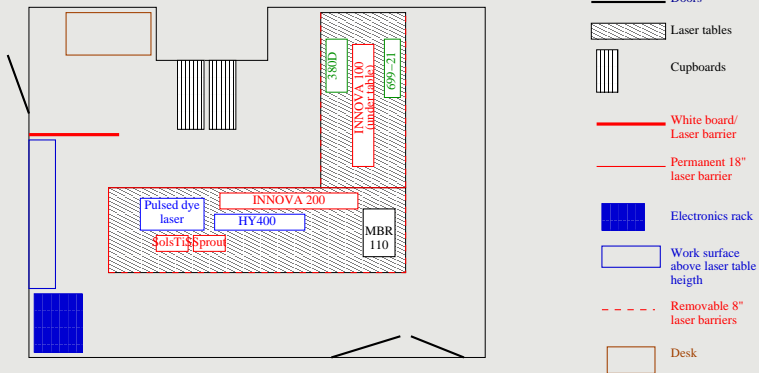
Laser safety officer Matthew Pearson, TRIUMF
pearson@triumf.ca, local 7538










2 Procedures, authorisation and training

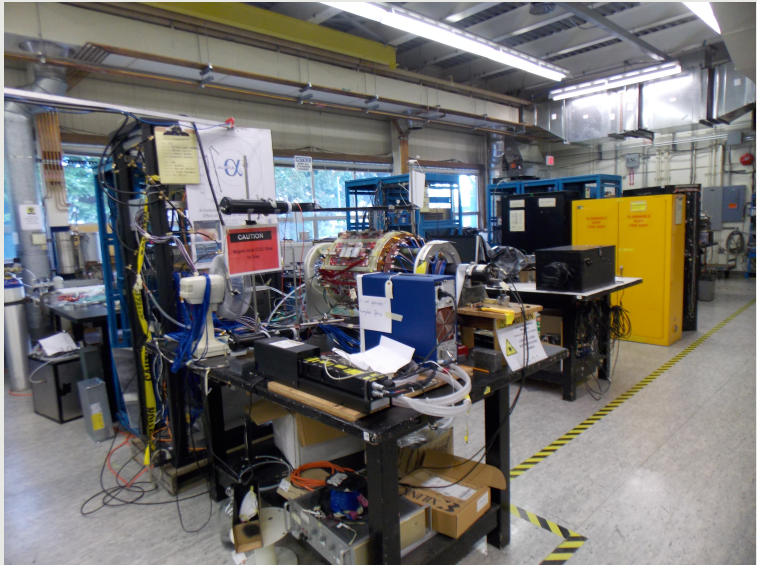
- Authorised personnel are those that have completed the general TRIUMF laser safety training including a baseline ophthalmic examination in addition to the specific laboratory orientation
- Short term visitors who provide written evidence of being registered laser users at their home institution need only take the specific laboratory orientation.
- A log book for each laser will be kept. This will include a list of authorised users of that laser as well as general procedures for use and a copy of the TRIUMF laser permit

3 Laser safety measures within the room

The room has been modified from it's original form that was in use as the ISAC control room. These modifications amount to the addition of a second entrance in the south east corner as well as enlarging the north west door to allow large equipment such as laser tables to enter the room safely. The north and east walls retain a significant area of window, these have been



-  Doors
-  Laser tables
-  Cupboards
-  White board/
Laser barrier
-  Permanent 18"
laser barrier
-  Electronics rack
-  Work surface
above laser table
height
-  Removable 8"
laser barriers
-  Desk





- Lasers are commonly in use everywhere
- Many users have no idea about the associated hazards
- Non light related hazards are significantly lower than they used to be but still exist
- Continual education and vigilance is required to enforce the rules