UNIVERSITY OF CALIFORNIA, BERKELEY OFFICE OF ENVIRONMENT HEALTH AND SAFETY LASER USE REGISTRATION Manufactured X On-loan Built In-House Modified PI Base LUR ? No Last Inspection Date Aug 20, 2015 LUR No. 1096 Principal Investigator (PI) Orlando, Donald Phone 642-5328 Department Physics Laser Location (Bldg) LeConte Hall (Rm) <u>283</u> Contact Person Donald Orlando Phone <u>642-5599</u> Laser Users Don Orlando Students in Physics 111 laboratory course.

Laser Specifications and Characteristics:

Laser Classification <u>3B</u>		DOI	E Funding? <u>NO</u>
Make <u>EOSI</u>	Model <u>2010</u>	Ser	ial No <u>00229</u>
LASER TYPE: Argon, Ruby, etc.	Diode		
	PULSED		X CONTINUOUS WAVE
Wavelength(s)		nm	780 nm
LASER OUTPUT			
Power or Energy		J/pulse	10 milli(max) W
Irradiance		W/cm2	26 mlli W/cm2
Pulse Repetition Frequency		Hz	
Pulse Duration		sec	
Operation Status active		Is the laser tuna	able? <u>multiline</u>
Beam Diameter (mm) 1 (est)	Beam Di	vergence (milliradia	ns) <u>1 (est)</u>
ANSI MPE	2.55 milli W/cm2		

Description of Laser Use:

Detailed description of Laser Use (include Schematic Diagram), use another sheet of paper if needed Used as a teaching tool. Used for Nonlinear spectroscopy and magneto-optics experiments.

r
Hazard
1
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SPECIAL REQUIREMENTS:

R1) Optical table laser barrier must be drawn close prior to operating any laser and should remain during normal operation.

R2) Alignments must be performed by PI or authorized and trained lab instructor.

R2) Laser users perform and document safety inspections of the laser system prior to each use. Each use is defined as any change to the optics, change in laser user, or if laser user is away from experiment for extended period of time.1) Prior to use, laser users need to perform and document safety inspections of the laser system and associated optics.

R3) All suspected laser incidents shall be reported to the PI and to EH&S-Laser Safety.

R4) Personnel protective equipment (PPE) shall be worn as needed in accordance with the campus laser safety policy and laboratory safety procedure.

Signature on File	Feb 20, 1998	Signature on File	Feb 20, 1998	
Laser Safety Officer	Signature Date	Non-Ionizing Radiation Safety Committee C	hair	Date

OFFICE OF ENVIRONMENT HEALTH AND SAFETY LASER USE REGISTRATION Manufactured X On-loan Built In-House Modified PI Base LUR ? No Last Inspection Date Aug 20, 2015 LUR No. 1187 Principal Investigator (PI) Orlando, Donald Phone 642-5328 Department Physics Laser Location (Bldg) LeConte Hall (Rm) <u>282F</u> Contact Person Donald Orlando Phone <u>642-5328</u> Laser Users Don Orlando Students in Physics 111 laboratory course.

UNIVERSITY OF CALIFORNIA, BERKELEY

Laser Specifications and Characteristics:

Laser Classification <u>3B</u>	DOE Funding? NO				
Make New Focus	Model <u>7013</u> Se	rial No <u>ST0414</u>			
LASER TYPE: Argon, Ruby, etc.	Diode				
	PULSED	X CONTINUOUS WAVE			
Wavelength(s)	nm	780 nm			
LASER OUTPUT					
Power or Energy	J/pulse	70 milli W			
Irradiance	W/cm2	185 milli W/cm2			
Pulse Repetition Frequency	Hz				
Pulse Duration	sec				
Operation Status <u>Active</u>	Is the laser tur	nable? <u>No</u>			
Beam Diameter (mm) <u>1(est)</u>	Beam Divergence (milliradi	ans) <u>1(est)</u>			
ANSI MPE	1.45 milli W/cm2				

Description of Laser Use:

Detailed description of Laser Use (include Schematic Diagram), use another sheet of paper if needed Laser is used for Boise-Einstein (MOT) experiment. Laser beam is split into three beams.

Make	New Focus	Model	7013		Serial No	ST04	14		
SPEC	CIAL HAZARD:								
<u>X</u>	1. Invisible Beam	(5. Chemicals		11. Explosion			16. Oth	er
<u>X</u>	2. Open Beam	<u>X</u>	7. Cryogenics		12. Fire			17. Skir	Hazard
	3. Collateral Radiation	8	8. Compressed Gases	s <u>X</u>	13. Multiple U	Jse Ro	oom		
	4. High Pressure Arc Lamp	9	9. High Voltage		14. Repair Ser	rvice			
X	5. Reflective Surfaces	X	10. Electrical		15. Q Switche	ed/Mo	de Locked	l	
SAFI	ETY CONTROLS RI	EOUII	RED FOR OP	ERATIO	ON:				
	18. Laser Warning Light on I	Door	X 25. Housing	Interlock			32. Safety	/ Training	
X	19. Door Signs		X 26. Master S	witch Key			Certificat	e/Quiz	
	20. Entry/Door Interlock		R4 27. Enclosure	es/Barriers		<u>X</u>	Formal L	ecture	
X	21. Emergency Procedures P	osted	X 28. Beam Sto	ops		<u>R2</u>	Operating	g Procedures	
X	22. Laser "On" Indicator		29. Viewing	Optics or W	Vindows	X	Manufact	urer's Manu	al
X	23. Equipment Warning Labe	ls	30. Exhaust	Ventilation		<u>R3</u>	33. Other		
X	24. Protective Housing		<u>X</u> 31. Eye Exar	n					
	PROTECTION RE	QUIR	ED 🛛 yes 🗆	NO					
-	wear Specifications			c c	OP Required		🛛 YES	□ NO	
O.D	. <u>2.1</u> Wavelength	780(1	<u>R4)</u> nm		-			_	
O.D	Wavelength		nm	S	OP Received		□ YES		
O.D	Wavelength		nm	S	OP Version Da	ate			

SPECIAL REQUIREMENTS:

R1) Optical table laser barrier must be drawn close prior to operating any laser and should remain during normal operation.

R2) Alignments must be performed by PI or authorized and trained lab instructor.

R2) Laser users perform and document safety inspections of the laser system prior to each use. Each use is defined as any change to the optics, change in laser user, or if laser user is away from experiment for extended period of time.1) Prior to use, laser users need to perform and document safety inspections of the laser system and associated optics.

R3) All suspected laser incidents shall be reported to the PI and to EH&S-Laser Safety.

R4) Personnel protective equipment (PPE) shall be worn as needed in accordance with the campus laser safety policy and laboratory safety procedure.

Signature on File	Oct 31, 2007	Signature on File	Oct 31, 2007	
Laser Safety Officer	Signature Date	Non-Ionizing Radiation Safety Committee C	hair	Date

OFFICE OF ENVIRONMENT HEALTH AND SAFETY					
	LASER USE RI	EGISTRATION			
Manufactured X	On-loan	Built In-House Modified	i		
LUR No. <u>1188</u>	PI Base LUR ? <u>No</u>	Last Inspection Date <u>Aug 20</u>), 2015		
Principal Investigator (PI) Orlando, Dor	nald	Phone	642-5328		
Department Physics	Laser	Location (Bldg) LeConte Hall	(Rm) <u>285</u>		
Contact Person Donald Orlando		Phone	642-5328		
Don Orlando Students in Physics 111 laboratory course.					
Laser Specifications and Chara Laser Classification <u>3B</u> Make <u>Roither Laser Technik</u> Model	ncteristics: RLV4212	DOE Funding? <u>NO</u> Serial No			
LASER TYPE: Argon, Ruby, etc. Dio	de				

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Laser Classification <u>3B</u>	D0	OE Funding? <u>NO</u>		
Make Roither Laser Technik	Model <u>RLV4212</u> S	Serial No		
LASER TYPE: Argon, Ruby, etc.	Diode			
	PULSED	X CONTINUOUS WAVE		
Wavelength(s)	nm	405 nm		
LASER OUTPUT				
Power or Energy	J/pulse	0.12 (max) W		
Irradiance	W/cm2	0.13 W/cm2		
Pulse Repetition Frequency	Hz			
Pulse Duration	sec			
Operation Status <u>active</u>	Is the laser tu	inable? Yes (BBO crystal)		
Beam Diameter (mm) 1	Beam Divergence (millirad	lians) <u>1.0</u>		
ANSI MPE	2.55 milli W/cm2			

Description of Laser Use:

Detailed description of Laser Use (include Schematic Diagram), use another sheet of paper if needed Diode laser will be used for Quantum Interference and entanglement experiment. the 405 nm beam will be split into three (2 x 810 nm, 1x405nm) via BBO crystal. Beam power for all wavelengths past the BBO crystal is less than 1 mW (calculated).

Make	Roither Laser Technik	Model	<u>RLV4212</u>		Serial No		
SPE(CIAL HAZARD:						
$\frac{X}{X}$	 Invisible Beam Open Beam Collateral Radiation High Pressure Arc Lamp Reflective Surfaces 		 Chemicals Cryogenics Compressed High Voltag Electrical 		 11. Explosion 12. Fire 13. Multiple Use 14. Repair Servi 15. Q Switched/ 	ice	
X X X X X X	ETY CONTROLS RI 18. Laser Warning Light on I 19. Door Signs 20. Entry/Door Interlock 21. Emergency Procedures P 22. Laser "On" Indicator 23. Equipment Warning Labo 24. Protective Housing	Door	X 25. Ho X 26. Ma X 27. End R1 28. Bea 29. Vic 30. Ext X 31. Eyd	ousing Interlock aster Switch Key closures/Barriers am Stops ewing Optics or W haust Ventilation	X X <u>R</u> Vindows X	<u>x</u> 2 X	32. Safety TrainingCertificate/QuizFormal LectureOperating ProceduresManufacturer's Manual33. Other
Eyev	wear Specifications . <u>2.1</u> Wavelength . <u>0</u> Wavelength	- 	<u>405</u> nm <u>810</u> nm	S	OP Required OP Received OP Version Date	9	X YES □NO X YES □NO

SPECIAL REQUIREMENTS:

R1) Optical table laser barrier must be drawn close prior to operating any laser and should remain during normal operation.

R2) Alignments must be performed by PI or authorized and trained lab instructor.

R2) Laser users perform and document safety inspections of the laser system prior to each use. Each use is defined as any change to the optics, change in laser user, or if laser user is away from experiment for extended period of time.1) Prior to use, laser users need to perform and document safety inspections of the laser system and associated optics.

R3) All suspected laser incidents shall be reported to the PI and to EH&S-Laser Safety.

R4) Personnel protective equipment (PPE) shall be worn as needed in accordance with the campus laser safety policy and laboratory safety procedure.

Safety precautions and control measures specified are required for operation under this LUR. Please contact the Laser Safety Officer regarding any questions.

Laser Safety Officer

Signature Date

Non-Ionizing Radiation Safety Committee Chair

Date

UNIVERSITY OF CALIFORNIA, BERKELEY
OFFICE OF ENVIRONMENT HEALTH AND SAFETY

LASER USE REGISTRATION

Manufactured	On-loan	Built In-House	X Modified]
LUR No. <u>1189</u>	PI Base LUR?	No Last Inspec	ction Date <u>Aug 20, 20</u>	15
Principal Investigator (PI) Orlando, Don	ald		Phone <u>642</u> -	-5328
Department Physics		Laser Location (Bldg) L	eConte Hall	(Rm) <u>287</u>
Contact Person Donald Orlando			Phone <u>642</u> -	-5328
Laser Users				
Don Orlando				
Students in Physics 111 laboratory course.				

Laser Specifications and Characteristics:

Laser Classification 4	D0	DE Funding? <u>NO</u>
Make UCB	Model DO-1 Se	erial No <u>#1</u>
LASER TYPE: Argon, Ruby, etc.	CO ₂	
	PULSED	X CONTINUOUS WAVE
Wavelength(s)	nm	10600 nm
LASER OUTPUT		
Power or Energy	J/pulse	11 (max) W
Irradiance	W/cm2	114 W/cm2
Pulse Repetition Frequency	Hz	
Pulse Duration	sec	
Operation Status <u>Active</u>	Is the laser tu	
Beam Diameter (mm) <u>8</u>	Beam Divergence (millirad	ians) <u>0.5</u>
ANSI MPE	<u>0.1</u> W/cm2	

Description of Laser Use:

Detailed description of Laser Use (include Schematic Diagram), use another sheet of paper if needed Used as a teaching tool to study lasers. Class use includes alignment and output studies.

LASER SAFETY REQUIREMENTS

Make UCB	Model DO-1	Serial No <u>#1</u>	
SPECIAL HAZARD: X 1. Invisible Beam X 2. Open Beam 3. Collateral Radiation 4. High Pressure Arc Lamp X 5. Reflective Surfaces	 6. Chemicals X 7. Cryogenics X 8. Compressed Gases X 9. High Voltage X 10. Electrical 	11. Explosion X 12. Fire 13. Multiple Use R 14. Repair Service 15. Q Switched/Ma	;
SAFETY CONTROLS RI18. Laser Warning Light on 1X19. Door Signs20. Entry/Door InterlockX21. Emergency Procedures PX22. Laser "On" IndicatorX23. Equipment Warning LabX24. Protective Housing	X 25. Housing Interview X 26. Master Switch 27. Enclosures/H osted X 28. Beam Stops 29. Viewing Opt	erlock ch Key X Barriers X <u>R1</u> tics or Windows	
EYE PROTECTION RE Eyewear Specifications O.D. 3.0(R3) Wavelength O.D. Wavelength Wavelength O.D. Wavelength Wavelength	n <u>10,600</u> nm n nm	O SOP Required SOP Received SOP Version Date	⊠ YES □NO ⊠ YES □NO

SPECIAL REQUIREMENTS:

R1) Optical table laser barrier must be drawn close prior to operating any laser and should remain during normal operation.

R2) Alignments must be performed by PI or authorized and trained lab instructor.

R2) Laser users perform and document safety inspections of the laser system prior to each use. Each use is defined as any change to the optics, change in laser user, or if laser user is away from experiment for extended period of time.1) Prior to use, laser users need to perform and document safety inspections of the laser system and associated optics.

R3) All suspected laser incidents shall be reported to the PI and to EH&S-Laser Safety.

R4) Personnel protective equipment (PPE) shall be worn as needed in accordance with the campus laser safety policy and laboratory safety procedure.

NOTE: This laser system is not to be used for instructional use until an engineered safety lock out system is installed to prevent the HV from being turned on while "valve #1" is open.

Avoid prolonged skin exposure to UV lamp used to activate IF imaging cards.

Signature on File	Dec 2, 1994	Signature on File	Dec 5, 1994	
Laser Safety Officer	Signature Date	Non-Ionizing Radiation Safety Committee C	hair	Date

OFFICE OF ENVIRONMENT HEALTH AND SAFETY LASER USE REGISTRATION Manufactured X On-loan Modified Built In-House PI Base LUR ? No Last Inspection Date Aug 20, 2015 LUR No. 1201 Principal Investigator (PI) Orlando, Donald Phone 642-5328 Laser Location (Bldg) LeConte Hall (Rm) <u>286E</u> Department Physics Contact Person Donald Orlando Phone 642-5328 Laser Users Don Orlando Students in Physics 111 laboratory course. Laser Specifications and Characteristics: Laser Classification 3B DOE Funding? NO Model <u>619083</u> Make Axcel Serial No BF-979-0300-P50 LASER TYPE: Argon, Ruby, etc. Diode X CONTINUOUS WAVE PULSED

UNIVERSITY OF CALIFORNIA, BERKELEY

Power or Energy	J/pulse	0.3 W
Irradiance	W/cm2	0.78 W/cm2
Pulse Repetition Frequency	Hz	
Pulse Duration	sec	
Operation Status Active	Is the laser tunal	ble? <u>mulitline</u>
Beam Diameter (mm) <u>1 (est)</u>	Beam Divergence (milliradian	as) 1 (est)

nm

ANSI MPE 0.00355 W/cm2

Description of Laser Use:

Wavelength(s)

LASER OUTPUT

Detailed description of Laser Use (include Schematic Diagram), use another sheet of paper if needed Laser will be used for a optical tweezer set-up.

12/6/11 - This LUR has been transferred to newer Lumics laser (845nm, 200mW, serial # 0026147(maybe, hard to read)), as the Avanex laser formerly listed here has been decommisioned and salvaged (laser "blew up").

1/23/14 - This LUR has been transferred to Axcel laser (975nm, 300mW, model 619083, serial #BF-979-0300-P50)

LASER SAFETY REQUIREMENTS

LUR No. 1201

975 nm

Make	Axcel	Model	619083	Serial No	<u>BF-9</u>	79-0300-P50
SPEC	CIAL HAZARD:					
<u>X</u>	 Invisible Beam Open Beam Collateral Radiation High Pressure Arc Lamp Reflective Surfaces 		6. Chemicals 7. Cryogenics 8. Compressed Gases 9. High Voltage 10. Electrical	11. Explosion 12. Fire 13. Multiple U 14. Repair Ser 15. Q Switche	Jse Rorivice	
$\begin{array}{c} \mathbf{X} \\ \mathbf{X} \end{array}$	ETY CONTROLS RI 18. Laser Warning Light on I 19. Door Signs 20. Entry/Door Interlock 21. Emergency Procedures P 22. Laser "On" Indicator 23. Equipment Warning Labe 24. Protective Housing	Door	X25. Housing InterlockX26. Master Switch KeX26. Master Switch KeX27. Enclosures/BarrieR128. Beam Stops29. Viewing Optics of30. Exhaust VentilationX31. Eye Exam	y rs r Windows	<u>X</u> <u>R2</u> <u>X</u>	
Eyev			975 nm nm	SOP Required SOP Received SOP Version Da	ate	⊠ YES □ NO □ YES ⊠ NO

SPECIAL REQUIREMENTS:

R1) Optical table laser barrier must be drawn close prior to operating any laser and should remain during normal operation.

R2) Alignments must be performed by PI or authorized and trained lab instructor.

R2) Laser users perform and document safety inspections of the laser system prior to each use. Each use is defined as any change to the optics, change in laser user, or if laser user is away from experiment for extended period of time.1) Prior to use, laser users need to perform and document safety inspections of the laser system and associated optics.

R3) All suspected laser incidents shall be reported to the PI and to EH&S-Laser Safety.

R4) Personnel protective equipment (PPE) shall be worn as needed in accordance with the campus laser safety policy and laboratory safety procedure.

Signature on File	Oct 31, 2007	Signature on File	Oct 31, 2007	
Laser Safety Officer	Signature Date	Non-Ionizing Radiation Safety Committee C	hair	Date

UNIVERSITY OF CALIFORNIA, BERKELEY OFFICE OF ENVIRONMENT HEALTH AND SAFETY						
LASER USE REGISTRATION						
Manufactured X	On-loan	Built In-House	Modified]		
LUR No. <u>1222</u>	PI Base LUR ? <u>No</u>	Last Inspection D	ate <u>Aug 20, 20</u>	15		
Principal Investigator (PI) Orlando, Do	nald		Phone <u>642</u>	-5328		
Department Physics	Laser	Location (Bldg) LeConte	Hall	(Rm) <u>283</u>		
Contact Person Donald Orlando			Phone <u>642</u>	-2843		
Laser Users						
Students in Physics 111 laboratory course.						

Laser Specifications and Characteristics:

Laser Classification <u>3B</u>	DOE Funding? No					
Make Russian	Model Se	erial No <u>2010/000352</u>				
LASER TYPE: Argon, Ruby, etc.	Diode					
	PULSED	X CONTINUOUS WAVE				
Wavelength(s)	nm	780 nm				
LASER OUTPUT						
Power or Energy	J/pulse	0.04 W				
Irradiance	W/cm2	0.104 W/cm2				
Pulse Repetition Frequency	Hz					
Pulse Duration	sec					
Operation Status <u>Active</u>	Is the laser tur					
Beam Diameter (mm) <u>1 (est)</u>	Beam Divergence (milliradi					
ANSI MPE	<u>0.00145</u> W/cm2					

Description of Laser Use:

Detailed description of Laser Use (include Schematic Diagram), use another sheet of paper if needed Laser is used for Non-linear spectroscopy and magneto-optics experiments.

Make	Russian	Model				Serial No	2010	/000352
SPE(CIAL HAZARD:							
	1. Invisible Beam		6. Chei	nicals		11. Explosion	ı	16. Other
	2. Open Beam		7. Cryo	genics		12. Fire		17. Skin Hazard
	3. Collateral Radiation		8. Com	pressed Gas	ses	13. Multiple	Use R	oom
	4. High Pressure Arc Lamp		9. Higł	Voltage		14. Repair Se	rvice	
	5. Reflective Surfaces		10. Ele	ctrical		15. Q Switche	ed/Mo	ode Locked
SAFE	ETY CONTROLS RI	EQUI	RED	FOR O	PERATI	ON:		
	18. Laser Warning Light on I	Door		25. Housin	ng Interlock			32. Safety Training
X	19. Door Signs		X	26. Master	Switch Key		X	Certificate/Quiz
	20. Entry/Door Interlock		X	27. Enclos	ures/Barriers			Formal Lecture
X	21. Emergency Procedures Po	osted		28. Beam S	Stops		X	Operating Procedures
X	22. Laser "On" Indicator				ng Optics or V	Windows		Manufacturer's Manual
X	23. Equipment Warning Labe	els			st Ventilation		X	33. Other
X	24. Protective Housing		X					
	6			- · J ·				
EYE	PROTECTION RE	OUIR	ED	X YES	□NO			
	wear Specifications	C						
-	. 1.86 Wavelength		780 nr	n		SOP Required		\blacksquare YES \square NO
	Wavelength					SOP Received		🛛 YES 🗌 NO
0.D						SOP Version D	ata	
U.D	Wavelength		nr	11		SOF VEISION D	ale	

SPECIAL REQUIREMENTS:

R1) Optical table laser barrier must be drawn close prior to operating any laser and should remain during normal operation.

R2) Alignments must be performed by PI or authorized and trained lab instructor.

R2) Laser users perform and document safety inspections of the laser system prior to each use. Each use is defined as any change to the optics, change in laser user, or if laser user is away from experiment for extended period of time.1) Prior to use, laser users need to perform and document safety inspections of the laser system and associated optics.

R3) All suspected laser incidents shall be reported to the PI and to EH&S-Laser Safety.

R4) Personnel protective equipment (PPE) shall be worn as needed in accordance with the campus laser safety policy and laboratory safety procedure.

Signature on File	Aug 19, 2010	Signature on File	Mar 20, 2011	
Laser Safety Officer	Signature Date	Non-Ionizing Radiation Safety Committee C	Chair	Date

OFI	UNIVERSITY OF FICE OF ENVIRON	,	
	LASER US	SE REGISTRATI	ON
Manufactured X LUR No. <u>1011</u>	On-loan PI Base LUR ?	Built In-Hous	
Principal Investigator (PI) Orlando	o, Donald		Phone <u>642-5328</u>
Department Physics		Laser Location (Bldg)	
Contact Person Donald Orlando			Phone <u>642-5328</u>
Laser Users Don Orlando			
Laser Specifications and Cl Laser Classification <u>3B</u> Make Power Technology Inc N	naracteristics:		E Funding? <u>NO</u>
		Sei	rial No <u>M021K12</u>
LASER TYPE: Argon, Ruby, etc.	diode		
	PULSED		X CONTINUOUS WAVE
Wavelength(s)		nm	658 nm
LASER OUTPUT		I/male a	
Power or Energy Irradiance		J/pulse W/cm2	46 milli(max) W 0.026 milli W/cm2
Pulse Repetition Frequency		Hz	0.020 mm w/cm2
Pulse Duration		sec	
Operation Status <u>storage</u> Beam Diameter (mm) <u>1</u>	Beam	Is the laser tun Divergence (milliradia	
			<u></u>
	.55 milli W/cm2		
Description of Laser Use: Detailed description of Laser Use (inclu Used to teach holography. 8/21/2012 - Holography experiment has 1/23/14 - Laser not seen, Don says prob	s been replaced. Laser i	s in storage.	aper if needed

LASER SAFETY REQUIREMENTS

LUR No. <u>1011</u>

UNIVERSITY OF CALIFORNIA, BERKELEY	
OFFICE OF ENVIRONMENT HEALTH AND SAFET	Y

Make	Power Technology Inc	Model	LDC U5/5642		Serial No	M021K1	2		
SPE(CIAL HAZARD:								
	1. Invisible Beam	6	5. Chemicals		11. Explosion			16. Other	
1	2. Open Beam	7	. Cryogenics		12. Fire			17. Skin Haza	urd
	3. Collateral Radiation	8	3. Compressed Ga	ses	13. Multiple U	Jse Roon	n		
	4. High Pressure Arc Lamp	9	9. High Voltage		14. Repair Ser	vice			
<u>X</u>	5. Reflective Surfaces	1	0. Electrical		15. Q Switche	d/Mode	Locked		
SAFI	ETY CONTROLS R	REQUIE	RED FOR O	PERATI	ON:				
	18. Laser Warning Light or	n Door	<u>X</u> 25. Housin	ng Interlock		32	. Safety	Training	
X	19. Door Signs		X 26. Master	r Switch Key		<u>X</u> Ce	ertificate	/Quiz	
	20. Entry/Door Interlock		R1 27. Enclosures/Barriers			x Fo	Formal Lecture		
X		Posted	X 28. Beam	Stops		R2 Or	perating	Procedures	
X				ng Optics or V	Windows			irer's Manual	
X		bels		st Ventilation		<u>R3</u> 33			
X	24. Protective Housing		31. Eye Ex			==			
	PROTECTION RI	EQUIRI	E D 🛛 YES	□NO					
•	wear Specifications				SOP Required	Þ	YES	□ NO	
O.D		th6			•	_	YES		
O.D	Waveleng	th	nm		SOP Received		J IES		
O.D	Waveleng	th	nm		SOP Version Da	ate			
SPE(CIAL REQUIREM	ENTS:							

R1) Optical table laser barrier must be in place prior to operating any laser and should remain during normal operation.

R2) Alignments must be performed by PI or authorized and trained lab instructor.

R2) Laser users perform and document safety inspections of the laser system prior to each use. Each use is defined as any change to the optics, change in laser user, or if laser user is away from experiment for extended period of time.1) Prior to use, laser users need to perform and document safety inspections of the laser system and associated optics.

R3) All suspected laser incidents shall be reported to the PI and to EH&S-Laser Safety.

R4) Personnel protective equipment (PPE) shall be worn as needed in accordance with the campus laser safety policy and laboratory safety procedure.

Signature on File	Dec 22, 1994	Signature on File	Jan 9, 1995	
Laser Safety Officer	Signature Date	Non-Ionizing Radiation Safety Committee Cl	hair	Date