National University of Singapore

experimental-based risk assessment form

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Name of Department	Physics	Name and Location of Lab	s11-02-09
Research Area	plasmonics	Name of PI	Asst Prof Andrew Bettiol

Experiment-Based Risk Assessment Form

Name of Activity/Experiment: characterization by leakage radiation microscopy

No	Desription/Details of Steps in Activity	Hazards	Possible Accident / ill Health & Persons-at-Risk	Existing Risk Control (Mitigation)	Severity	Likelihood (Probability)	Risk Level (severity x probability)	Additional Risk Control	Person Responsible	By (Date)
1	laser alignment	laser light	Laser light shining directly into eyes can cause permanent blindness	1. All users to wear googles of appropriate wavelength 2. black non-reflective boards barricading areas where laser are aligned	2	1	2			
		Fire hazard	1. Fire due to high power femtosecond IR Radiation 2. Skin burn by laser beam	1. Always close the laser shutter when the laser is not in use 2. Reduce the power to minimum during laser alignment 3. Cover the beam path when laser is in use 4. No flammable substances or paper should be placed in the beam path. 5. Use metal shields to block relected/scattered light	2	1	2			
		Reflected/ Scattered laser light	Reflected laser light can cause permanent blindness.	1. No jewellery or wrist watch is allowed when working with lasers. 2. 'LASER IN USE' sign lighted when laser work is carried out.	2	1	2			
		Focused laser light using objectives	Focused laser spot can ignite paper and cause fire.	Use IR Card for alignment instead of paper. Reduce the laser power down to 50 mW before alignment.	1	1	1			
2	using optical microscope	reflected laser from sample to eyepiece	reflected laser light can cause blindness	1. eyepiece is covered when laser is on. 2.use camera to image	2	1	2			
3	using underneath illuminator	strong illumination from beam splliter	high light intensity can cause damage to eyes	the splitter is covered.	2	1	2			

Conducted By: Yang Chengyuan

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Approved By

Name: Asst Prof Andrew Bettiol

Signature:

Approval date:

Result: competent