

University of Texas Health Science Center at San Antonio
Standard Operating Procedures
for
NSTORM Super-resolution
Optical Imaging Core Facility
STRF 252, Greehey Campus
Laser Control Area
July 24, 2013

Prepared by Exing Wang

Laser Custodian:

Exing Wang

Name Printed

Signature

Date

Laser Safety Officer:

Jennifer Cerecero

Name Printed

Signature

Date

INTRODUCTION

Nikon NSTORM super-resolution system (the booth near the entrance) contains the following lasers:

Class	Type and wavelength
3B	Solid state (405 nm)
3B	Argon (458, 488, 514 nm)
3B	Solid state (561nm)
3B	Fiber Laser (647 nm)

All the visible lasers are connected to the Nikon Ti microscope via a fiber optic cable. All lasers and their power supplies are combined into a wheeled sled that is placed on the floor behind the anti-vibration table. The sole purpose of the lasers is for super-resolution imaging.

Primary Laser Custodian:

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Name

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Name	Badge#	Contact#	Email
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Authorized Primary Users

A list of authorized users is on file with Environmental Health and Safety. This list will be updated as frequently as needed.

Incidental Personnel

In addition to the authorized primary users, incidental personnel may be in the room at the time of the experiment. These personnel are not trained on the system, nor have they gone through the laser safety program. They will be observing only and not involved in the operation of the system. They will not be in the room during any alignment or maintenance of the lasers.

Normal Laser Operation

Nikon NSTORM super-resolution system contains the following lasers:

Class	Type	Model	S/N	Wavelength	Power output
3B	Argon	163-C0207	A1245645	457-514nm	<200mW
3B	Solid State	1170506	L05060102	405 nm	100mW
3B	Solid State	SAPPHIRE 561	LDP 1162895	561nm	<100mW
3B	Fiber Laser	F-04306-13	1101C027-02	647nm	<300mW

All the visible lasers are connected to the Nikon Ti microscope via a fiber optic cable. All lasers and their power supplies are combined into a wheeled sled that is placed on the floor behind the anti-vibration table.

The sole purpose of the lasers is for super-resolution imaging.

Eyewear

Wavelength specific eyewear will be used by field service engineers during alignment.

Alignment Hazard Control

All lasers are aligned by service engineers and are not adjusted by users or facility staff.

Laser Hazard Control

1. Access to laser control room is restricted to trained personnel. The room is secured by a card-access door reader. All access is approved by the campus police.
2. The entire system is enclosed by laser proof curtain.
3. Operation of all Class 3B lasers is only accessible through the system software. Computer access is restricted to trained users with unique login names and passwords.
4. A "Laser in Use" warning sign is mounted above the entrance of the enclosed system booth.
5. All lasers are enclosed with no open beam throughout the path.
6. All users are trained in the operation of the NSTORM and the proper use and care for the lasers.

Primary users are trained in the operation of the NSTORM and the proper use care for the lasers.

Authorized User Signatures

The operating procedure is reviewed and understood by each authorized laser user during initial training on the system.