OTZ - Optical Trapping

Signature Sheet

Student's Name _____ Partner's Name _____

Suggested Readings to Start

Pre-Lab Discussion Questions

It is your responsibility to discuss this lab with an instructor before your first day of your scheduled lab period. This signed sheet must be included as the first page of your report. Without it you will lose grade points. You should be prepared to discuss at least the following before you come to lab:

1. How does an Optical Trap work? Show us the optical path of the trapping laser. What is the trapping laser's wavelength?
2. What is a Power Spectrum Density (PSD) Graph and what can it be used for?
3. What is meant by sensitivity and stiffness of an Optical Trap?
4. What are the safety requirements for working with this laser?

Staff Signature _____ Date _____

Completed before the first day of lab? (Circle one) Yes / No

Mid-Lab Discussion Questions

1. By day 3 of this lab, you should have successfully created a slide with a dilute solution of 1 micron beads, turned on the laser, trapped a bead, and moved it vertically and horizontally. Start the Optical Trapping program and take real time data while the bead is trapped. Using the "Alt + Print Screen" command, copy the Power Spectrum Density graph and show it to a GSI.

Staff Signature _____ Date _____

Completed by day 3 of lab? (Circle one) Yes / No

Checkpoint Signatures

1. Laser Goggle Safety Check

   Staff Signature _____

2. Trapping a Single Bead

   Staff Signature _____

3. Sensitivity vs Laser Power Plot

   Staff Signature _____

4. Sensitivities From Alpha Values

   Staff Signature _____

5. Stiffness Values

   Staff Signature _____

6. Two Sets of Questions

   Staff Signature _____