Nanotechnology to Robotics

Instructor: Phillip Wu

Problem Set 5 Optics Atoms and Molecules

Due Week 11 April 29 2023

1. Work through the paralleldemo\_gpu\_fft2.m file. Try a few of the following modifications. Modify the aperture size by changing the value 20/N2 to a different ratio. Plot the different figures and write down your observations. Now modify the slits range, for example change (abs(gx)<=10/N2) .\* (abs(gx)>=8/N2) the values of the N2 ratios. Observe the difference in the figure, plot the different figures and write down your observation of the differences observed in the Fourier image.
2. Work through the CalculateSphericalHarmonicsExample.mlx. Plot for values [l,m] = [5,3], [4,2], [4,4], [3,0]. Show the images.
3. In a paragraph in the default language of the course, consider the choice of materials and properties of those materials that are to be used in a humanoid robot. Utilize concepts that we discussed in class.