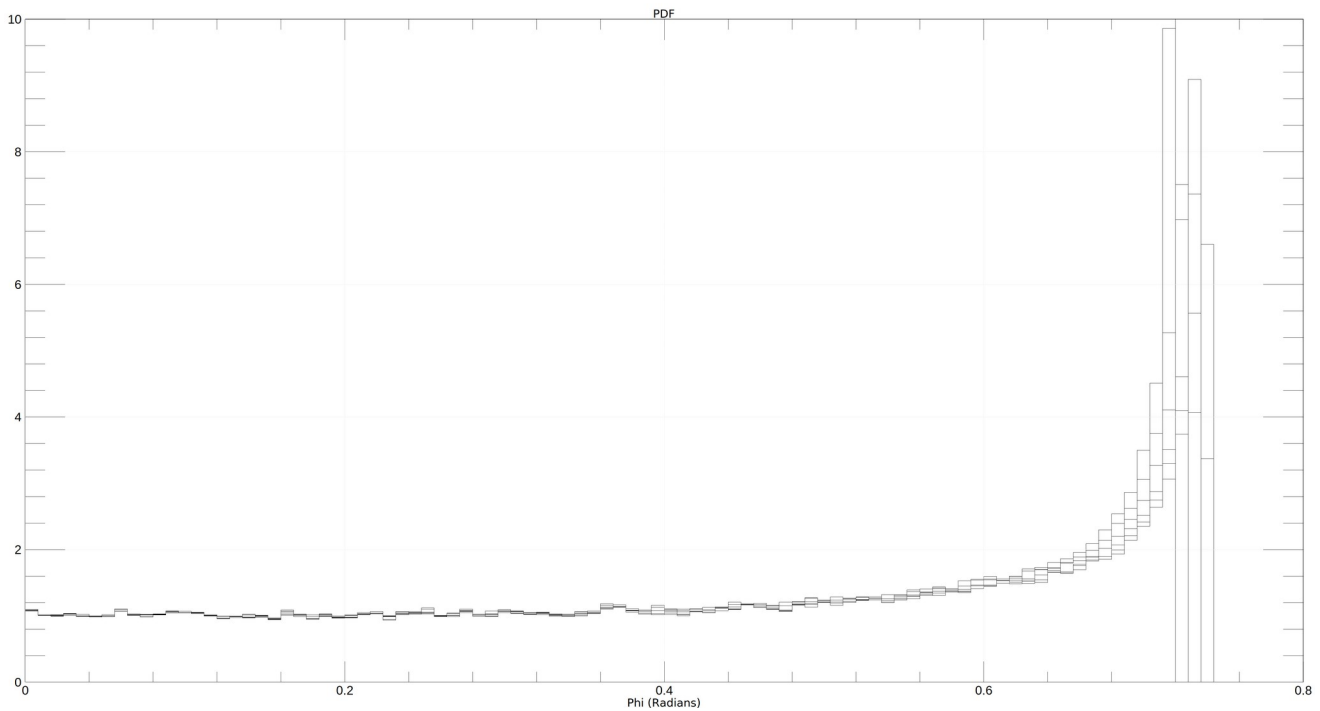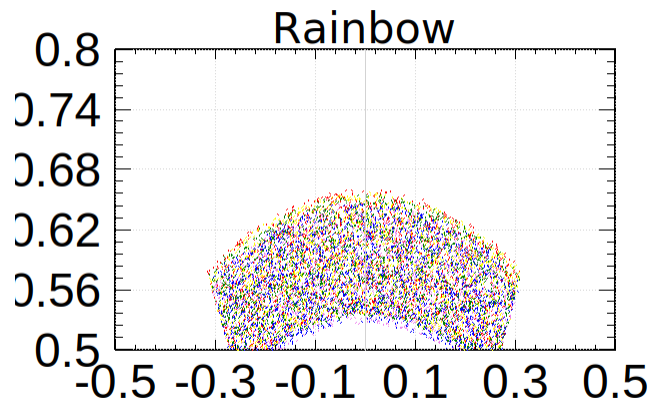# Assignment 9

11 a) Using the refraction data from Chapter 4, exercise 7, for the range of 400-700 nm, the PDF angle between the incident beam and reflected beam was plotted. The difference between the angles is termed as phi. Uniform real distribution was used for the analysis. The plot is shown below:

The distributions from all the seven data points peaks at 0.72 radians which is approximately 41.25 degrees, which confirms the fact that the expected peak is around 40 degrees.

b) For simplification, only 5 colors were used to plot the rainbow, namely violet, red, yellow,green and blue. The range of wavelengths for each color were taken from the internet with assumptions. For a 2000, rainbow band is plotted below:

c) The rainbow generation code was successfuly parallelized and more number of points (photons) could be used.