12.109 Lab 6 Fun with Stereonets

This lab is designed to get you comfortable with using stereonets. Make sure to read each question before you start.

- 1) A) Draw the crystallographic axis for the following crystal systems: Orthorhomic, isometric and hexagonal.
 - B) On one stereonet, plot and label the axes for the orthorhombic and hexagonal systems.

- 2) On the same stereonet, plot planes in the following orientations (make sure to label them):
 - A) Parallel to the B axis of the orthorhombic crystal
 - B) Parallel to the A3 axis of the hexagonal crystal
 - C) Perpendicular to the C axis of the orthorhombic crystal and containing the other two axes.
 - D) A plane at 45 degrees to all three of the orthorhombic axes.
 - E) A plane at 45 degrees to the negative A and B orthorhombic axis but parallel to the C axis.
- 3) Draw a tetrahedron, give its crystal class and put all the symmetry elements on a new stereonet.

- 4) On a new stereonet, plot the vectors from a cube center to each apex. Also, plot vectors to the middle of each side of the upper face.
- 5) On the same stereonet as in 4, plot the poles to the [111] faces. What is the angle between the poles and the vectors you plotted to the midpoints of the cube sides?

STEREOGRAPHIC NET WITH 10CM RADIUS

