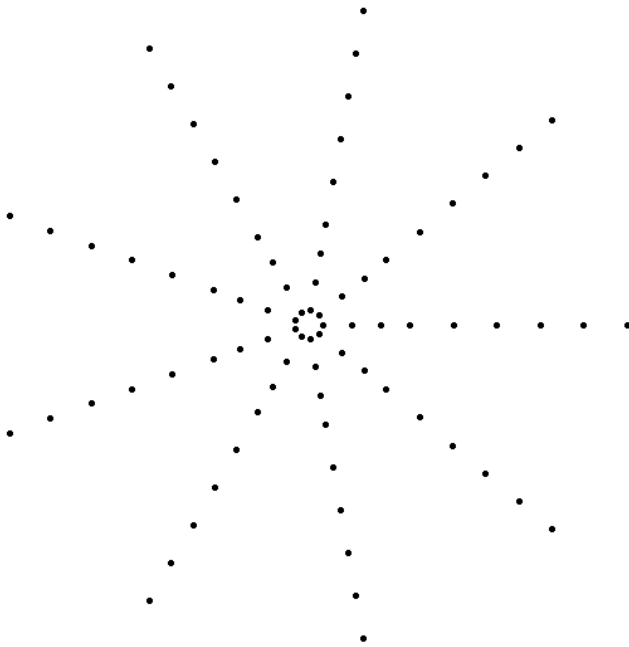


Due Monday, March 17, in inbox by 12:00 Noon

This problem investigates the correlation interferometer. On the class web site you will find a data file entitled ec.data. Download this file. It is an ascii file giving the locations in meters of a number of radio antennas and a complex signal value measured by each.

The format of the file is x-location, y-location, and complex signal value. Assume that you are using a wavelength of 50 cm.

For reference, an “image” of the array locations is:



The (0,0) location is in the upper left hand corner.

This array is used to image the sky, with data at each antenna as given in the ec.data file.

Calculate the visibilities for all of the antenna pair combinations, and derive an image of the sky.

Note: the image you obtain will have many sidelobes, or false stars, in it. Hint: there are only three stars in the true image. Scale your display so that it is clear which of the points in your image are the true stars.