Adji Geospatial Observations   HW9

Find XYZ data (meters) from laser scanning for 2 objects:

   (a) sphere : sphere_m.xyz

   (b) plane : board2_m.xyz

in the file data1_12_hw9_data.zip, you can import into matlab using the "load" command.

1. Fit a sphere to the data in the first file. All coordinate components are observed. Do by _batch_ mode LS. Assume $\sigma_x = \sigma_y = \sigma_z = 1.0$ mm. Make 2-sided global test at $\alpha = 0.99$ Suggest matlab "plot 3" to view data for initial approximations.

2. Fit a plane to the data in the second file. All coordinate components are observed. Do by _sequential_ LS. Assume $\sigma_x = \sigma_y = \sigma_z = 1.0$ mm. Make a 2-sided global test at $\alpha = 0.99$. Suggest matlab "plot 3" function to view data, and pick a few data points for unique (linear) solution for initial approximations. (Note: you could _also_ do this by batch LS to confirm same results, but it is not required.)