

Distribution of Milky Way Globular Clusters

In this assignment the goal is to use the coordinate locations and distances to the known Milky Way globular clusters to answer three fundamental questions

- (a) Does the Galaxy have a morphological centre?
- (b) If it has, then are we at the centre of the Galaxy, or displaced from this centre?
- (c) Is there any pattern to how globular clusters of different metallicities are distributed within the Galaxy?

You will be provided with catalogue of Galactic globular clusters given by Harris W, E. 1996, AJ, 112, 1487. Use the data to make plots (multiple plots) in whichever way you want to answer these three questions.

Your final submission should be a single PDF file with your name, and should include

- (1) your brief answers to the three questions, and
- (2) all the figures you make to substantiate your answers to the three questions. Each figure should have a proper caption. Try to be creative in making these plots. Remember Abraham Lincoln's famous last words, *only submit a plot that you are proud of*.

The final grade for this assignment will depend on how easily and how well I am able to understand your plots and your answers. Give me a plot that I can incorporate in my slides and show off the next time I teach this course.

The submission deadline is midnight of February 8, 2023 (Wednesday)