Determining the Gravitational Center of the Galaxy Based on Globular Clusters

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At the center of the Milky Way Galaxy, there exists a supermassive black hole. What is the exact location of this black hole and can its position be discovered based on the locations of the globular clusters in our Galaxy? It was determined that globular cluster position relates to the center of the galaxy. This was determined by categorizing globular clusters into constellations. The positions of the constellations that were the most globular cluster dense were used to try and determine the experimental center of the galaxy. This was done by mapping the locations of these constellations and estimating the possible center of the galaxy. The results of the experiment supported the hypothesis that calculating the geometric midpoint of the constellations with the highest concentrations of globular clusters would accurately find the gravitational center of the Milky Way Galaxy. Globular clusters tend to be pulled closer to the supermassive black hole, causing the most globular cluster dense constellations to be located closest to the center of the Milky Way Galaxy. It may be possible to use the findings from this experiment to locate the theoretical center of the observable universe by using galaxy-dense areas rather than globular clusters and constellations.

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