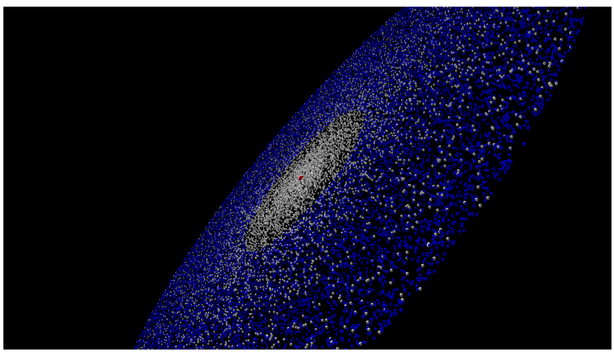
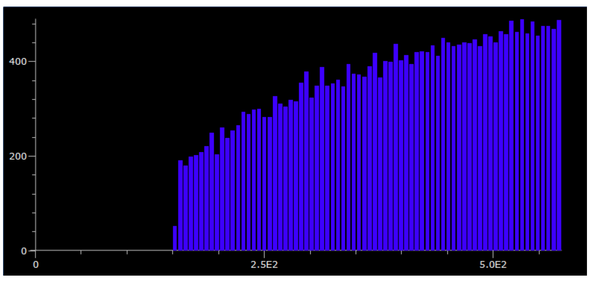
Conclusions



Our models showed that there was a need for dark matter in galaxies, affirming our statement of intent. The model predicted the movement of stars within the galaxies accurately according to the Keplerian model , while the real data contradicted the model : this gave us evidence of dark matter. These models were accurate : the data collected from them matched professional work from NASA. The most significant takeaway was the difference in the velocity curves of galaxies. While our velocities began to fall shortly after the radius exceeded the dense central bulge of the galaxy, the real curve remained constant and did not taper off. This is astounding considering that once the radius was beyond a majority of the galactic mass, the velocity should have decreased consistently. This proposes a new view of galaxies constructed of small amounts of visible matter , surrounded by immense clusters of dark matter that maintain the outer orbit velocities. From measuring this distribution we can observe that dark matter exists more frequently in outer regions of galaxies.



Dark matter vs. radial distance
This is the dark matter distribution that resulted from the simulation