Week Quiz Reviw

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Classes Materials

Modern Pic of Galaxy

- diameter 100,000 l.y.
- radius 50,000 l.y.
- thickness 1,000 l.y.
- number of stars 200 billions

Half of the visible matter in our galaxy appears to be in stars, and the other half makes up the Intersteller Medium (**ISM**). It absorbs and scatters visible light, and as a result it masks most of the milly way. We tend to use infrared to abserve galaxy. ISM also radiates energy depending on what stage of the gas-star-gas cycle.

Supernova emits a lot that can create bubbles around the ISM's hot air. 20% 50% are in ISM are bubbles.

As atomic hydrogen cools further to 10 - 30 K, it forms molecular Hydrogen. The cold clouds' cores collapse into protostars. Stars only form in the place where we have cold gas, which is the center line of galaxy.

Stellar Orbits in the Galaxy

Stars in the bulge and halo all orbit the Galactic center, but in randomly distributed directions and inclinations relative to the disk, and with much higher average velocities than stars in the Milky Way's Disk. They do bobble up and down quite a bit though, because of

- the gravitational pull from nearby objects.
- the combined pull of the entire disk.

The reason why stars orbit around the center of galaxy is because there is a center of mass. This is not because there is a dominent things in the center.

There are some dark objects at the center location of the galaxy. We call as Sgr A. Coming within 90 AU and reaching a top speed. In order to reach that speed around Sgr A, the mass should be huge as 4 millions mass of sun.

We are still wondering how the blackhole form.