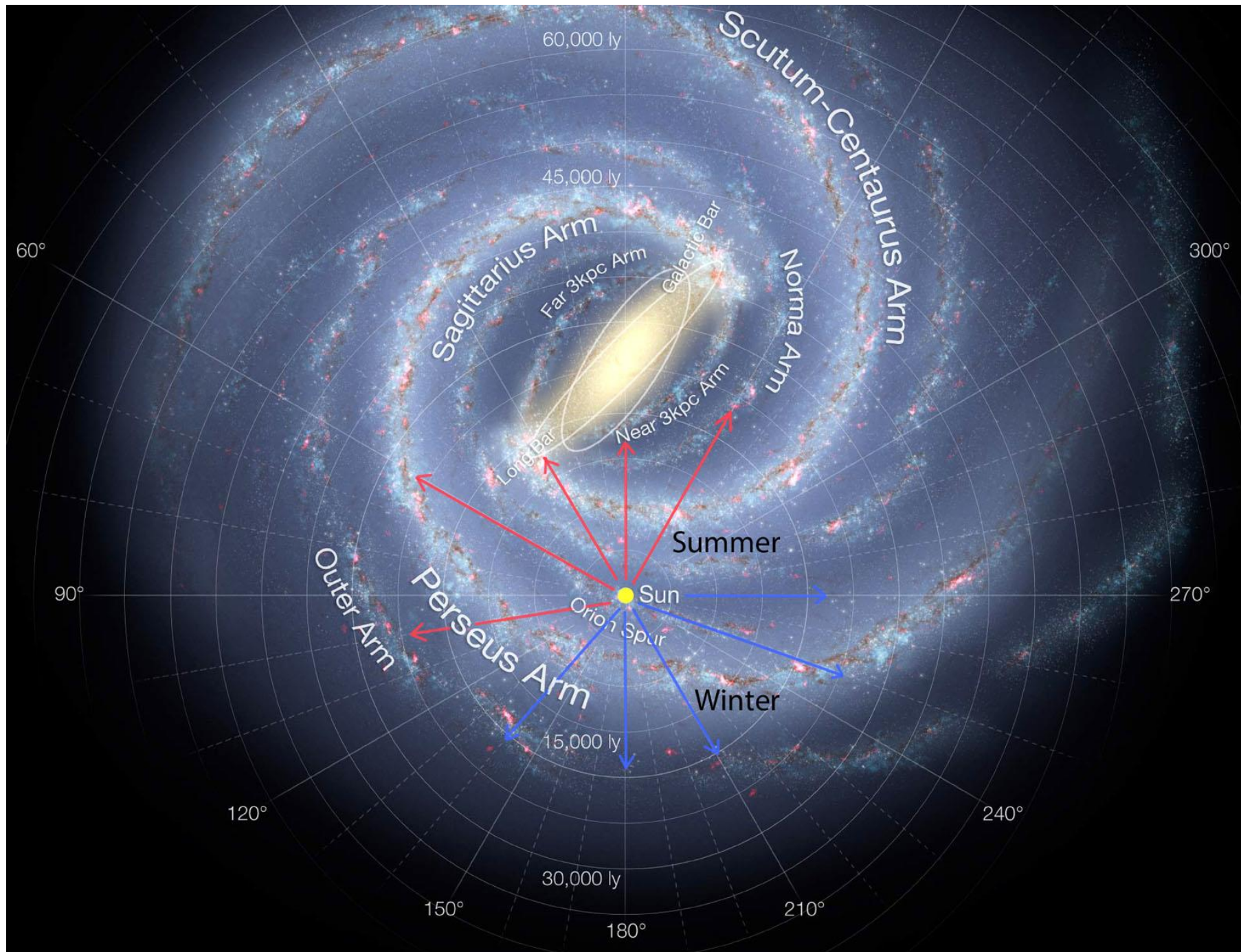


The Milky Way

Week 20

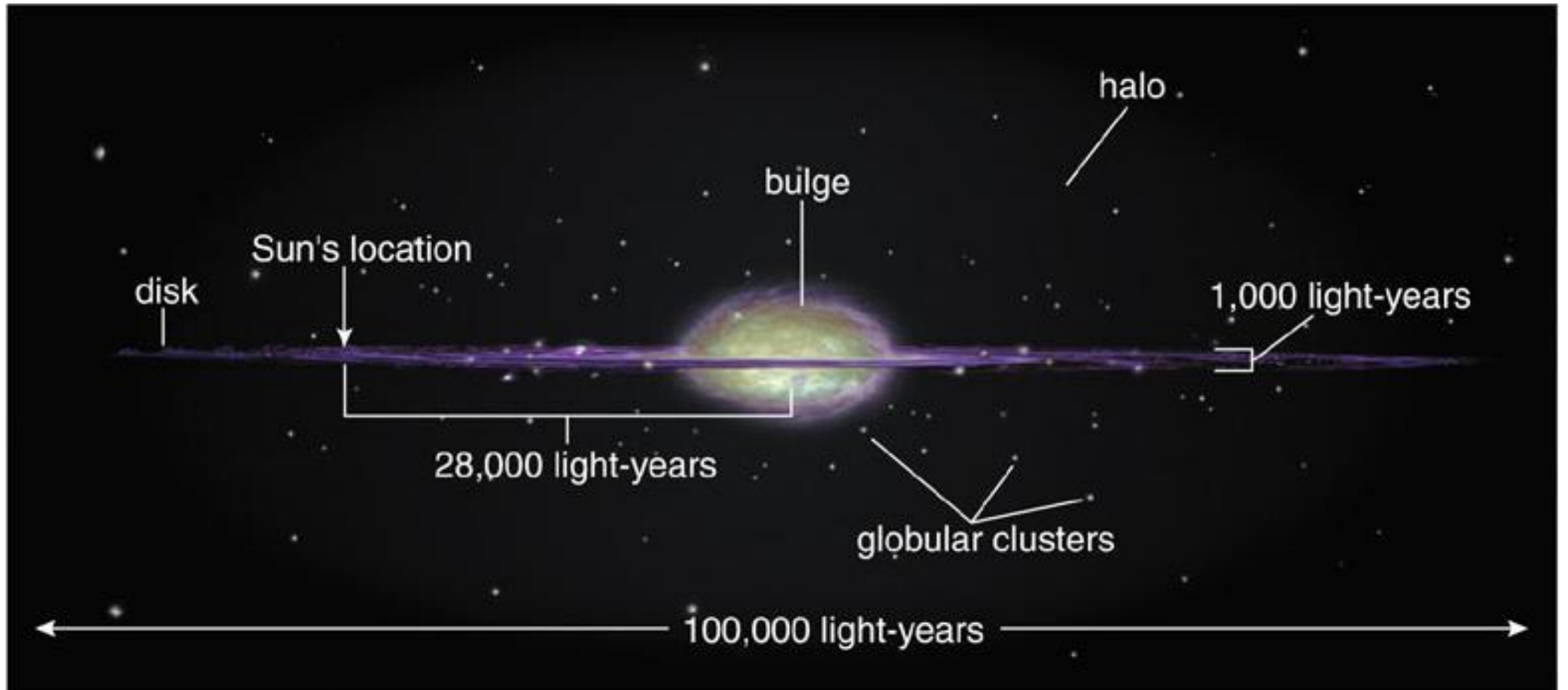




JLS



Side view of the Milky Way



- The disc is roughly 30 kpc wide and 1 -2 kpc thick.
- Bulge is at the centre. Scientists believe there is a supermassive black hole at the centre.
- The halo contains many globular clusters.
- The spiral arms also contain dust and gas

- The arms also contain hydrogen.
- A hydrogen atom has 1 electron.
- Electrons spin as they orbit the nucleus.



- As the electron spins it gives out electromagnetic radiation.
- The wavelength of the radiation is 21cm.
- This makes it a microwave



- As the milky way spins, the 21cm waves appear to be longer or shorter.
- This is called Doppler shift and we'll do this in the redshift topic later in the course.
- It helps us prove that the galaxy is spinning.



