ASTRO 1020 Lab

L7: Tully-Fisher Relationship

Grading

- All labs are scaled to be graded out of **10 points***

Points per question	Description
1.0	A correct answer with units and work shown. Answers that don't require work will be graded on completion
0.8	A correct answer without units or work shown
0.6	An incorrect answer with units and work shown
0.4	An incorrect answer without units or work shown
0.2	Some work shown without an answer
0.0	Not Attempted

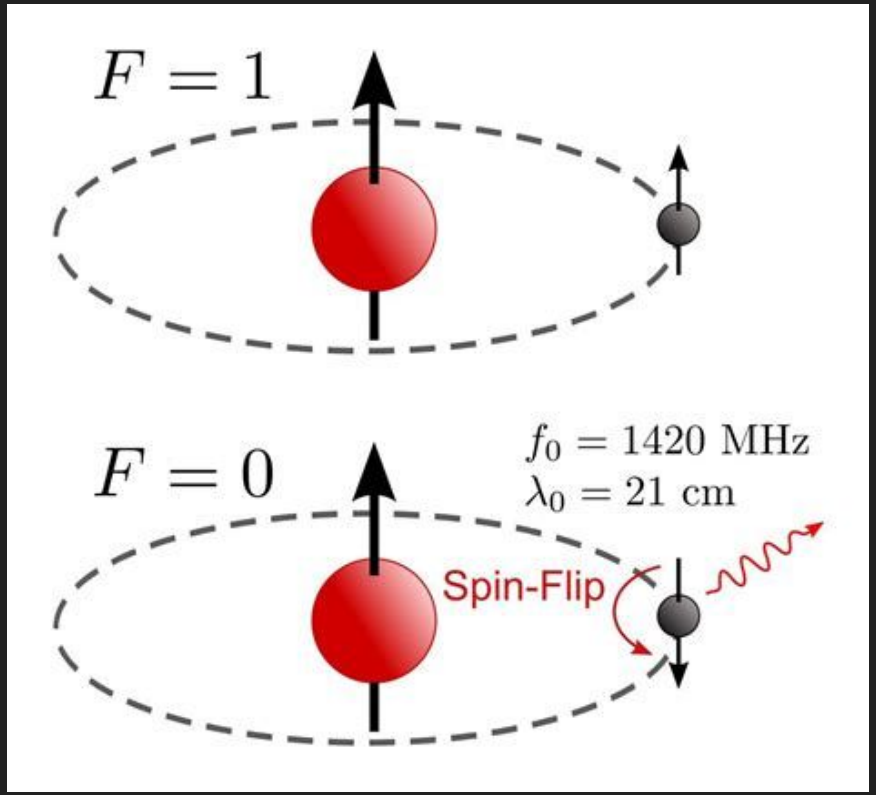
Lab Schedule

Lab	Dates	Topic
~~LAB 1~~	~~Sept 9 – 13~~	~~Sun~~
~~LAB 2~~	~~Sept 16 – 20~~	~~Spectra~~
~~LAB 3~~	~~Sept 23 – 27~~	~~Binary Stars~~
~~LAB 4~~	~~Sept 30 – Oct 4~~	~~Period Luminosity~~
~~LAB 5~~	~~Oct 7 – 11~~	~~Hubble's Law~~
~~LAB 6~~	~~Oct 14 – 18~~	~~Galaxy Classification~~
LAB 7	Oct 21 – 25	Tully-Fisher Relation
LAB 8	Oct 28 – Nov 1	Star Clusters & Supernovae
LAB 9	Nov 4 – 8	Black Holes
Semester Project	Nov 18 – 22	

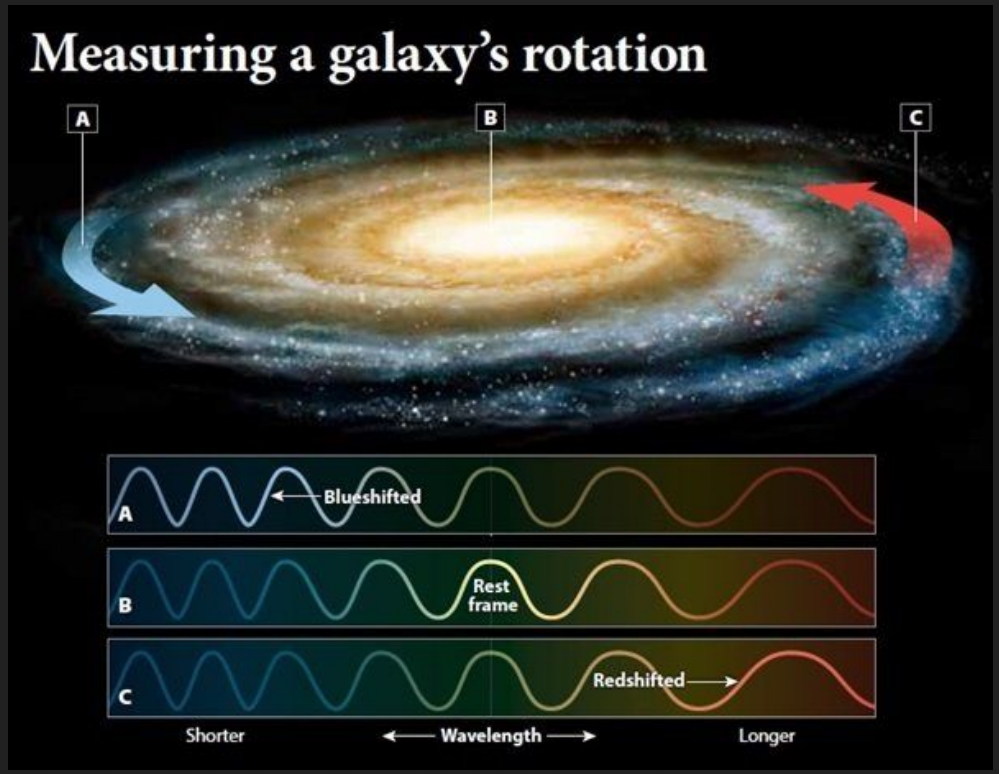
Things you need to know for Lab 7

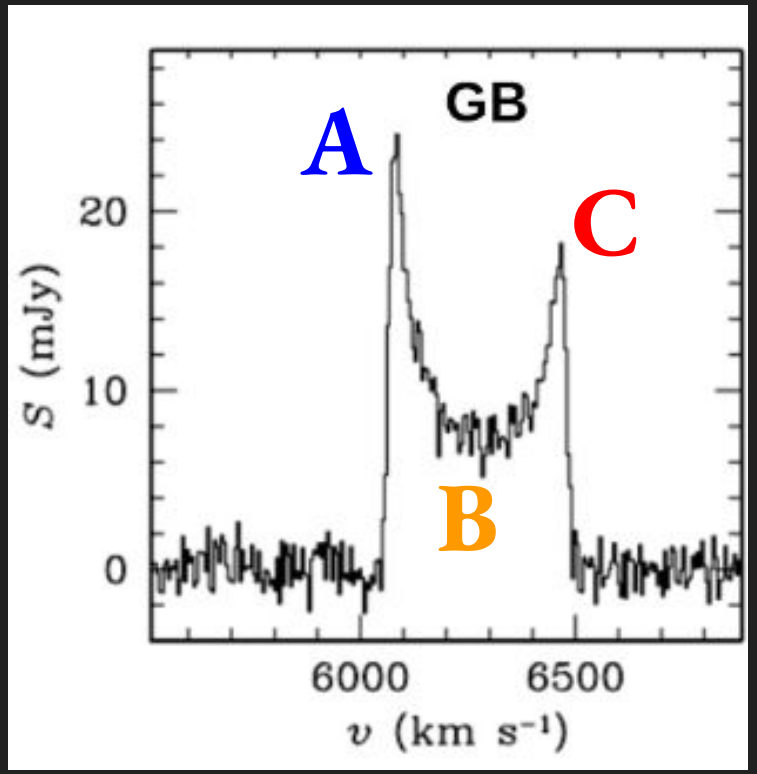
- H I line emission
- Radial velocities
- Galactic inclinations
- Tully-Fisher relationship
- Distance modulus

H I line emission

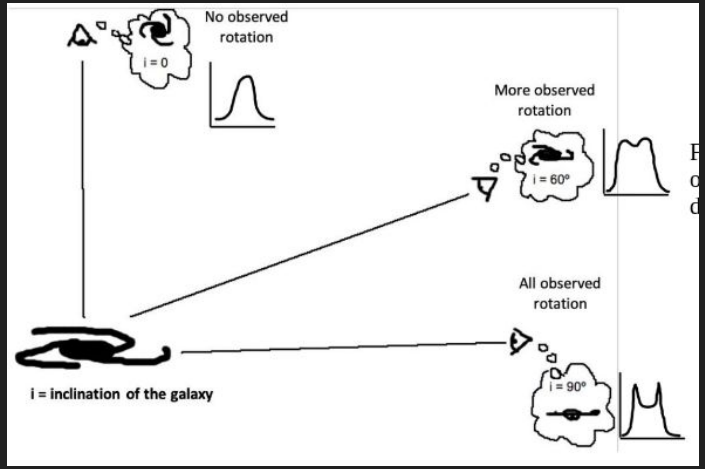


Radial Velocities





Galactic Inclinations



- A measure of how you view galaxies
- Measured in degrees
- 0° is face on, 90° is edge on
- Edge on case is ideal for radial velocity measurements

Tully-Fisher Relationship

- Relates the radial velocity of a galaxy to its luminosity

$$L = (W_{50-C})^4$$

Distance Modulus

- Relates the luminosity of a galaxy to its distance

$$M = -2.5log_{10}(L) + 4.82$$

$$D = 10^{(m-M+5)/5}$$

Questions?