

Lesson 13: Tools of the Astronomer Student Worksheet: Redshift

Instructions:

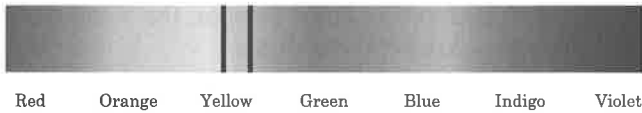
1. Examine the four spectra below.
2. Note the position of the pair of dark absorption lines in the spectra.
3. Compare the different locations of the pairs of dark lines in each spectrum.
4. Assume Galaxy A is not receding so there is no redshift in the lines of its spectrum.

Questions:

- A. Which galaxy is the nearest and moving away from us at the lowest velocity?
- B. Which galaxy is the furthest from us, and moving away from us with the greatest velocity?
- C. Why?



Red Orange Yellow Green Blue Indigo Violet
*Galaxy A: Stationary, recessional velocity = 0 km/s.
The pair of dark absorption lines is in its normal position in the blue part of the spectrum.*



Red Orange Yellow Green Blue Indigo Violet
Galaxy B



Red Orange Yellow Green Blue Indigo Violet
Galaxy C



Red Orange Yellow Green Blue Indigo Violet
Galaxy D