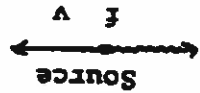


1. If the source is receding  $f'$  is less than  $f$  and  $\lambda'$  is greater than  $\lambda$  [red shift].
2. If the source is approaching  $f'$  is greater than  $f$  and  $\lambda'$  is less than  $\lambda$  [blue shift].

$$\Delta f = f - f'$$

$$\frac{f}{\Delta f} = \frac{c}{v} \quad \text{also} \quad \frac{\lambda}{\Delta \lambda} = \frac{c}{v}$$



Doppler Effect

1. Continuous - arises from
  - (1) hot solid
  - (2) hot liquid
  - (3) hot dense gas
2. Discrete
  - a. Bright line (Emission) - arises from a hot tenuous gas
  - b. Absorption (Fraunhofer) - arises when white light is passed through a cool tenuous gas

Kinds of Spectra

If the velocity of light depends on the frequency (color) we say the material is a dispersive medium. The corresponding deviation of the light rays for different colors is called dispersion.

LIGHT (cont)

AST 1002

DEPARTMENT OF ASTRONOMY  
University of Florida