

Formation of Emission + Absorption Line Spectra from same cloud

1-26-06

some photons of "right" energy absorbed by atoms in gas cloud

OBSERVER WHO SEES HOT BACKGROUND
sees ABSORPTION LINE SPECTRUM

less photons of "right" energy come out of cloud

a bit later the same atoms which absorbed the photons will spontaneously emit photons in random directions (some in your direction)

OBSERVER WHO SEES NO HOT BACKGROUND (e.g. COOLER BACKGROUND)

sees EMISSION LINE SPECTRUM

