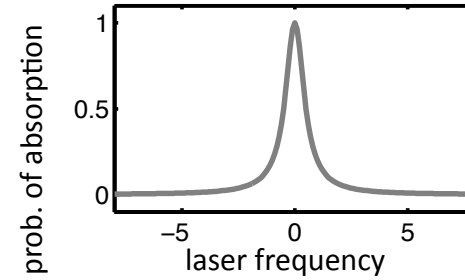
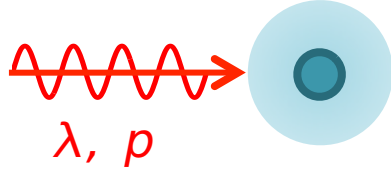
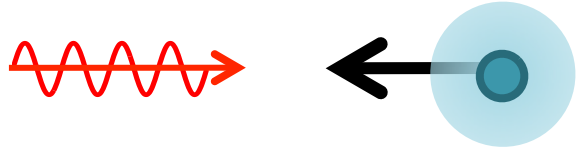


The probability of absorption depends strongly on the wavelength/frequency of light

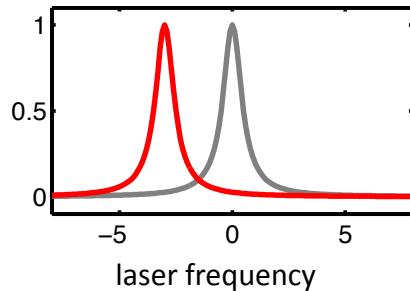


Due to the Doppler effect, absorption also depends on the motion of the atom:



moving towards the light:
atom's frame: light is blue shifted (higher freq.)

lab frame: atom absorbs redder light



moving away from the light:
atom's frame: light is red-shifted (lower freq.)

lab frame: atom absorbs bluer light

