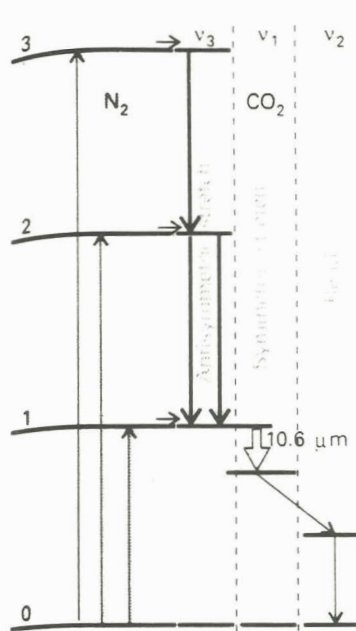
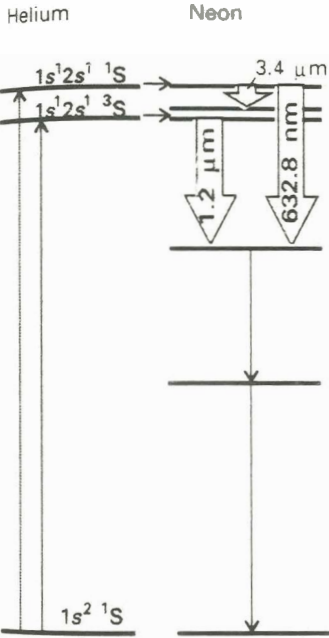


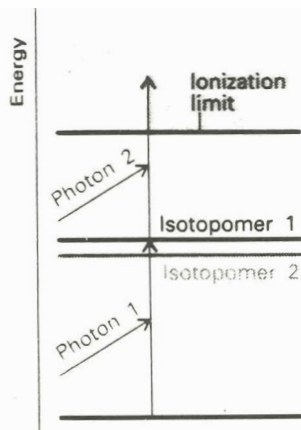
Gas Lasers, Ne Ar

Infrared Laser



17.25 The transitions involved in the helium–neon laser. The pumping (of the neon) depends on a coincidental matching of the helium and neon energy separations, so that excited He atoms can transfer their excess energy to Ne atoms during a collision.

17.28 The transitions involved in the carbon dioxide laser. The laser transition is from $v_2 = 1$ to $v_1 = 1$



Two photon process.

17.35 In one method of isotope separation, one photon excites an isotopomer to an excited state, and then a second photon achieves photoionization. The success of the first step depends on the nuclear mass.