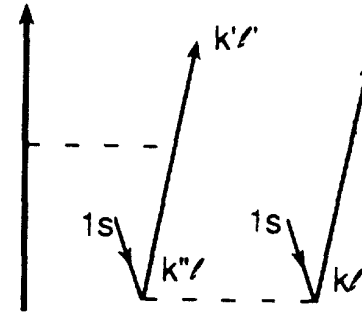
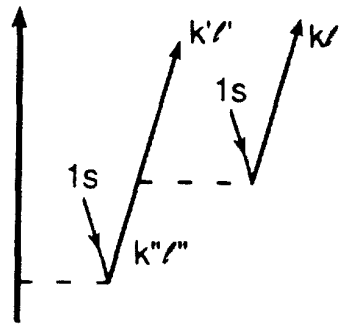


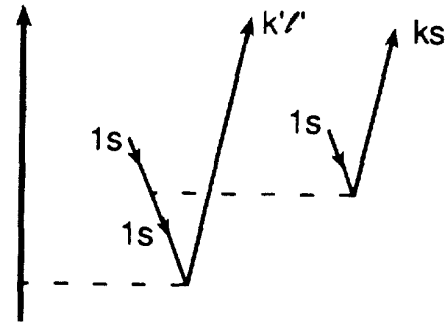
(a)



(b)



(c)



(d)

FIG. 1. Goldstone diagrams for the two-electron process included in ionization and excitation of helium by a fast projectile. (a) Double collision without correlation. (b) Ground-state correlation plus collision. (c) Collision plus electron-electron interaction. (d) Collision plus electron-hole interaction. The final state kl can be either continuum or bound state.