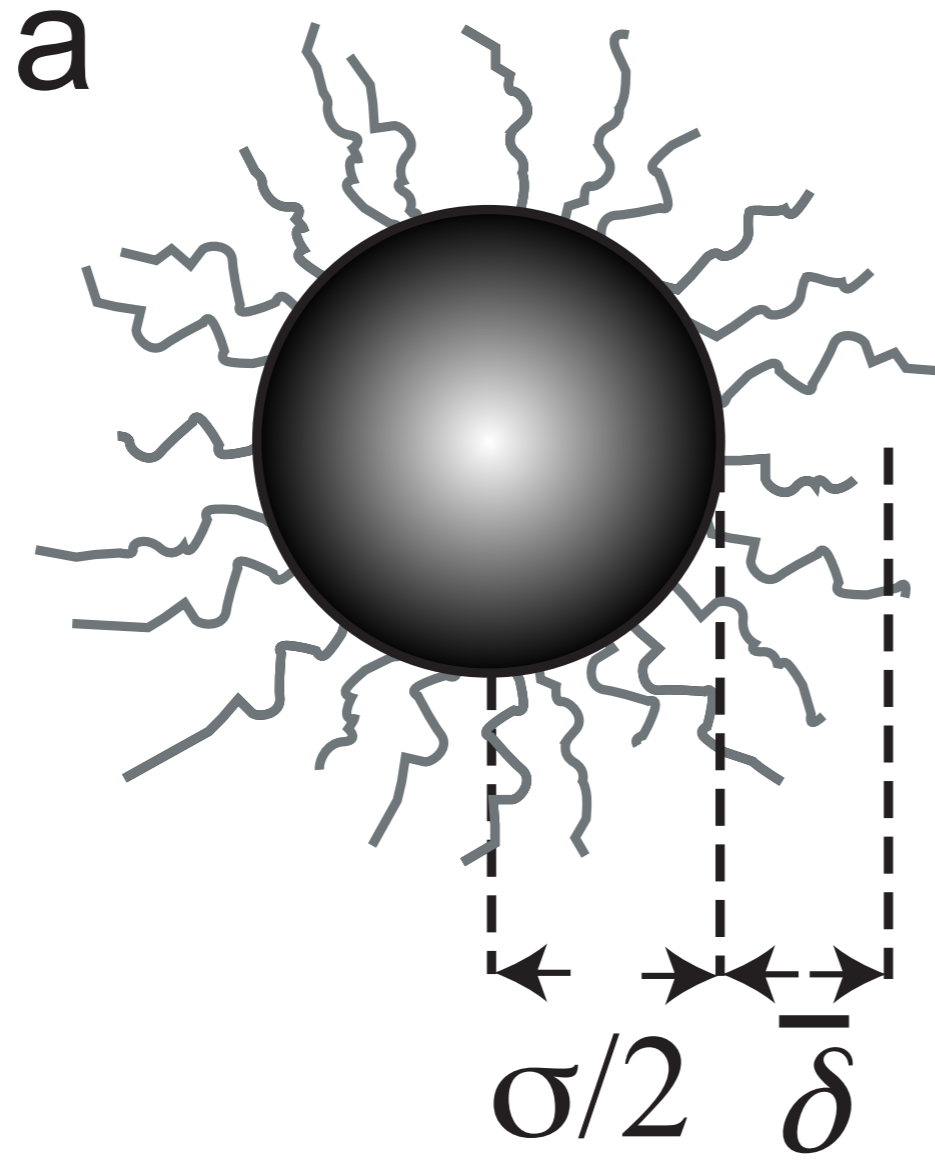


PMMA



# hard-sphere colloidal crystals and glasses

(a)



(b)



(c)

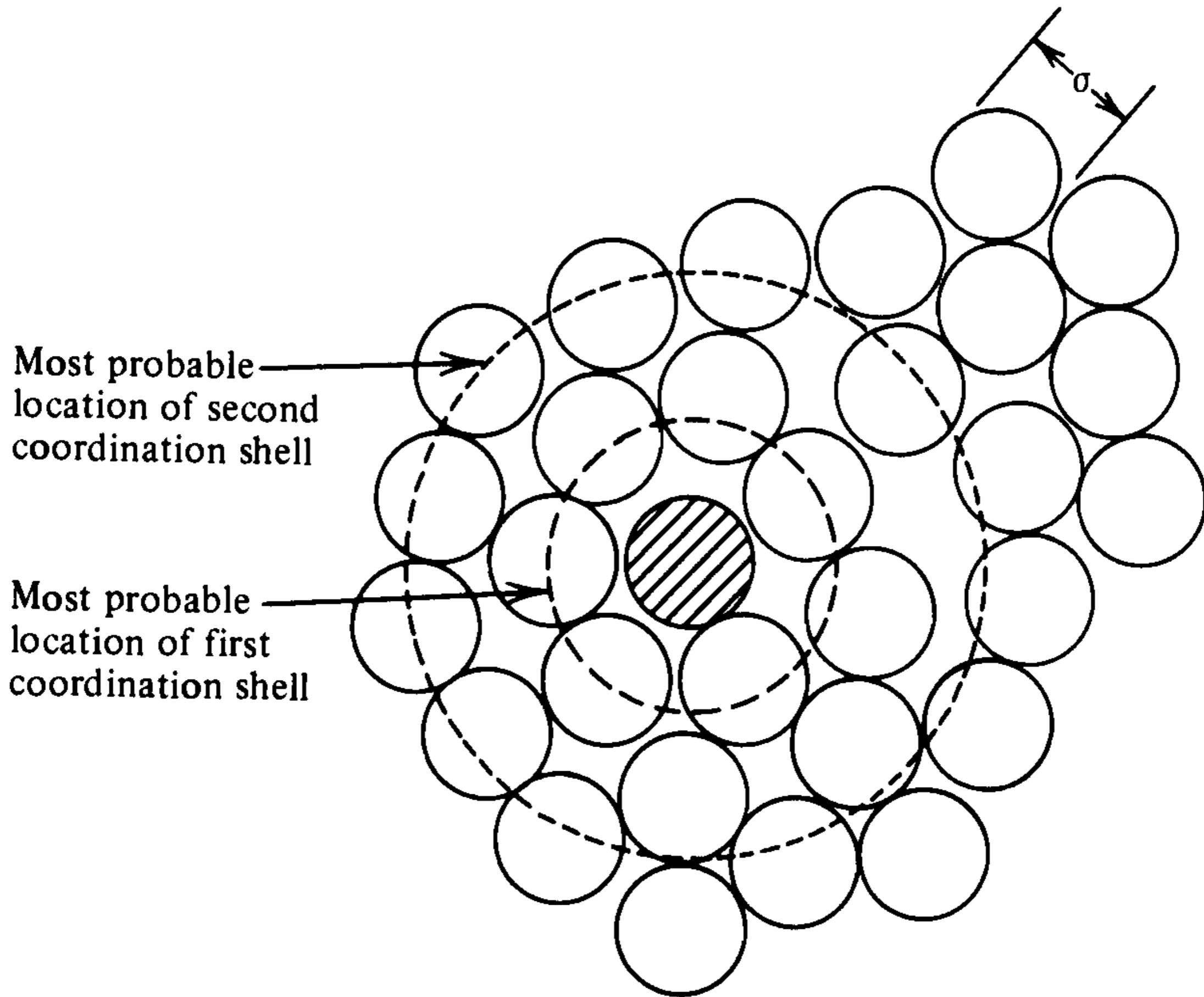


fluid  
 $\phi < 0.494$

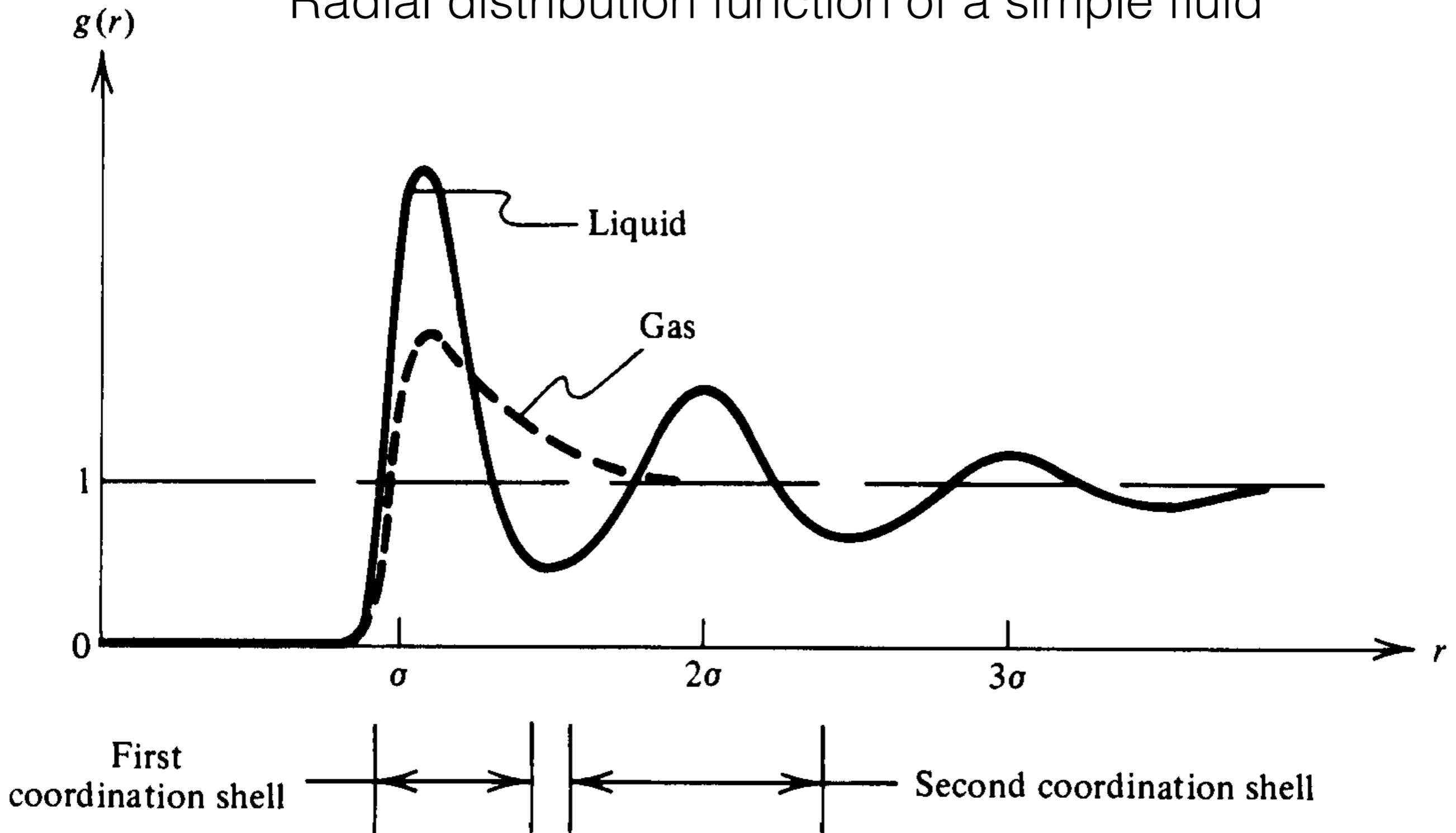
fluid +  
crystal

crystal  
 $\phi > 0.545$

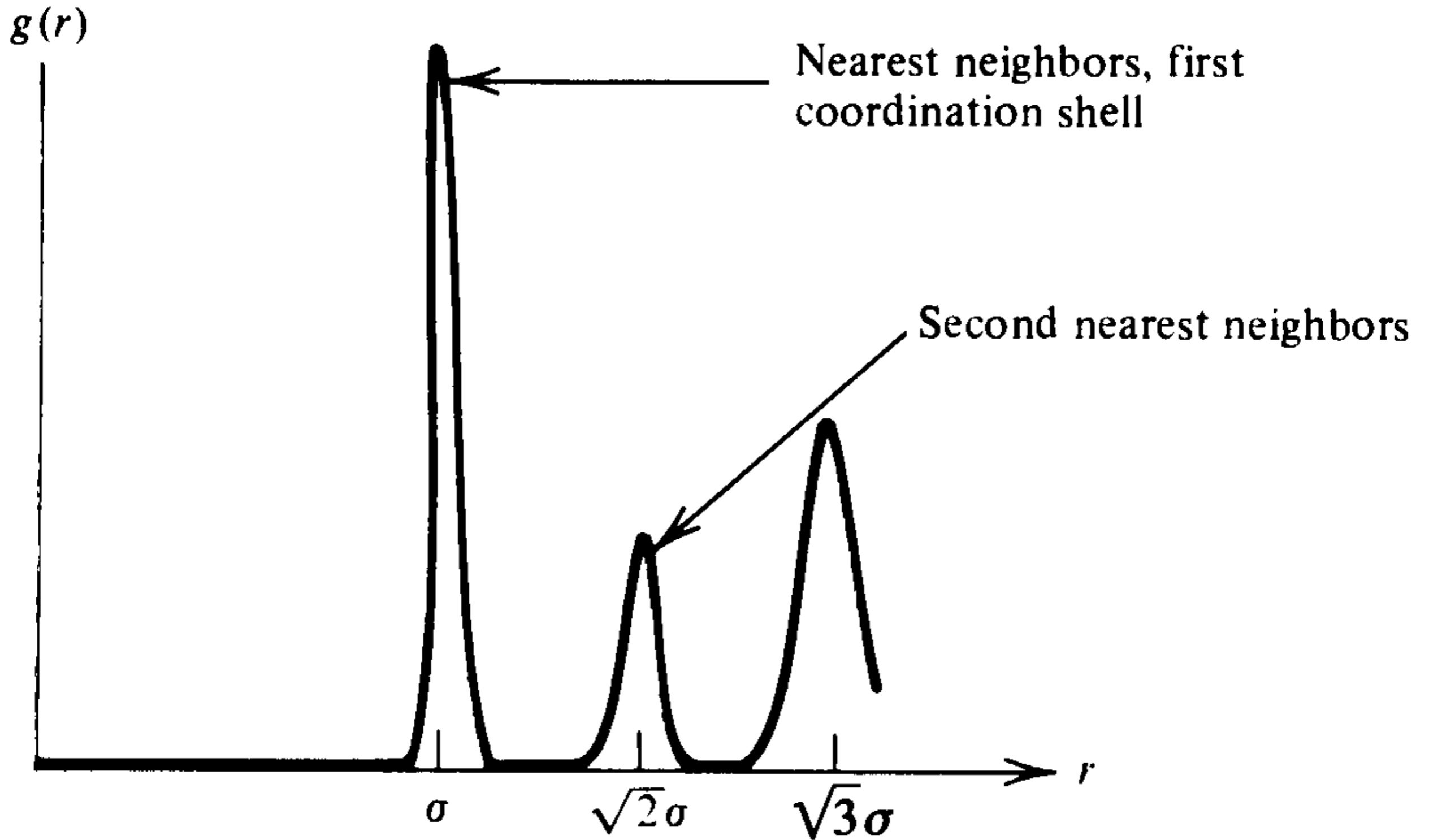
glass  
 $\phi > 0.58$



# Radial distribution function of a simple fluid

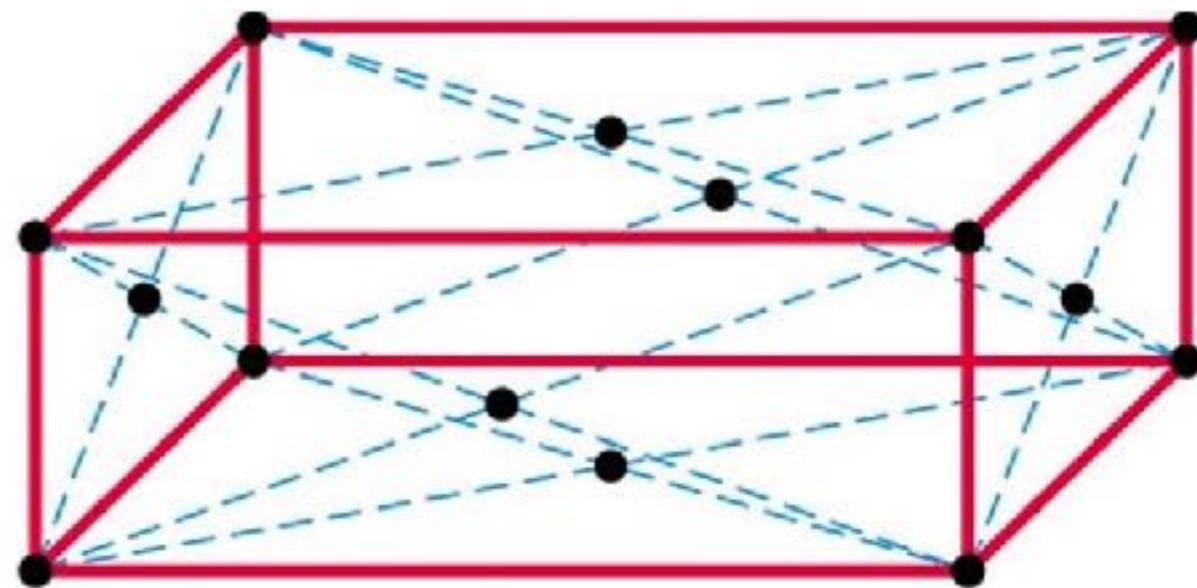


# Radial distribution function of a highly ordered solid

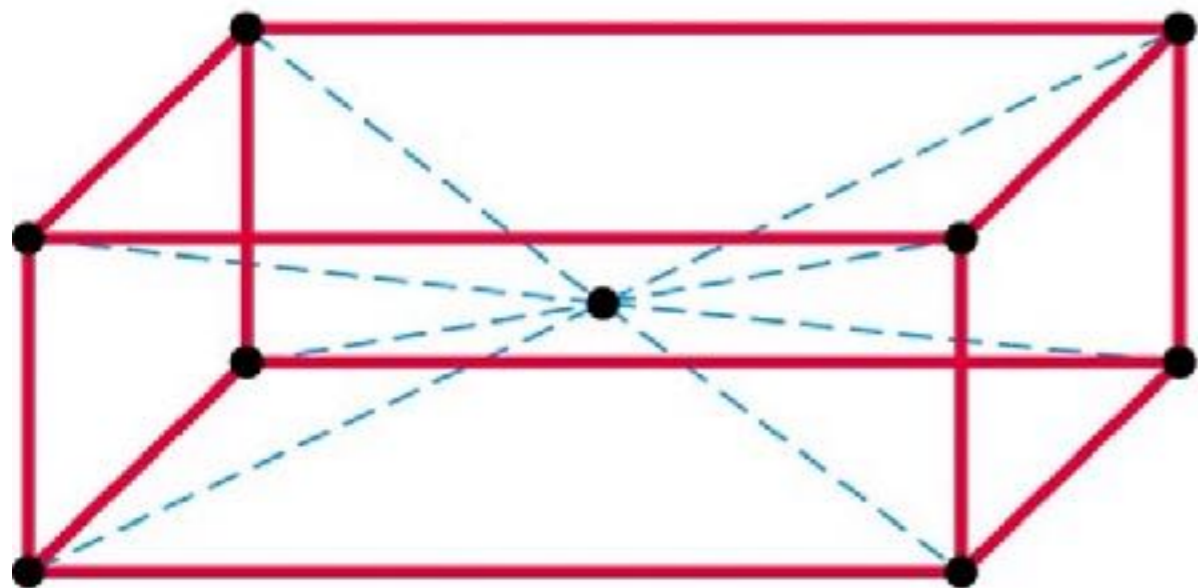




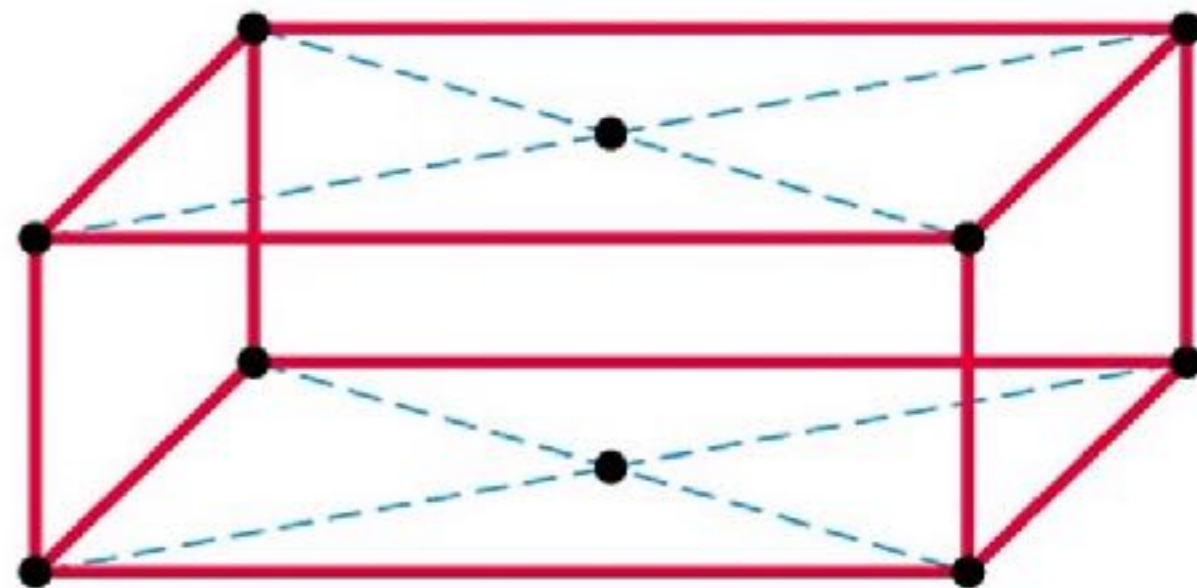
Primitive



Face-centered

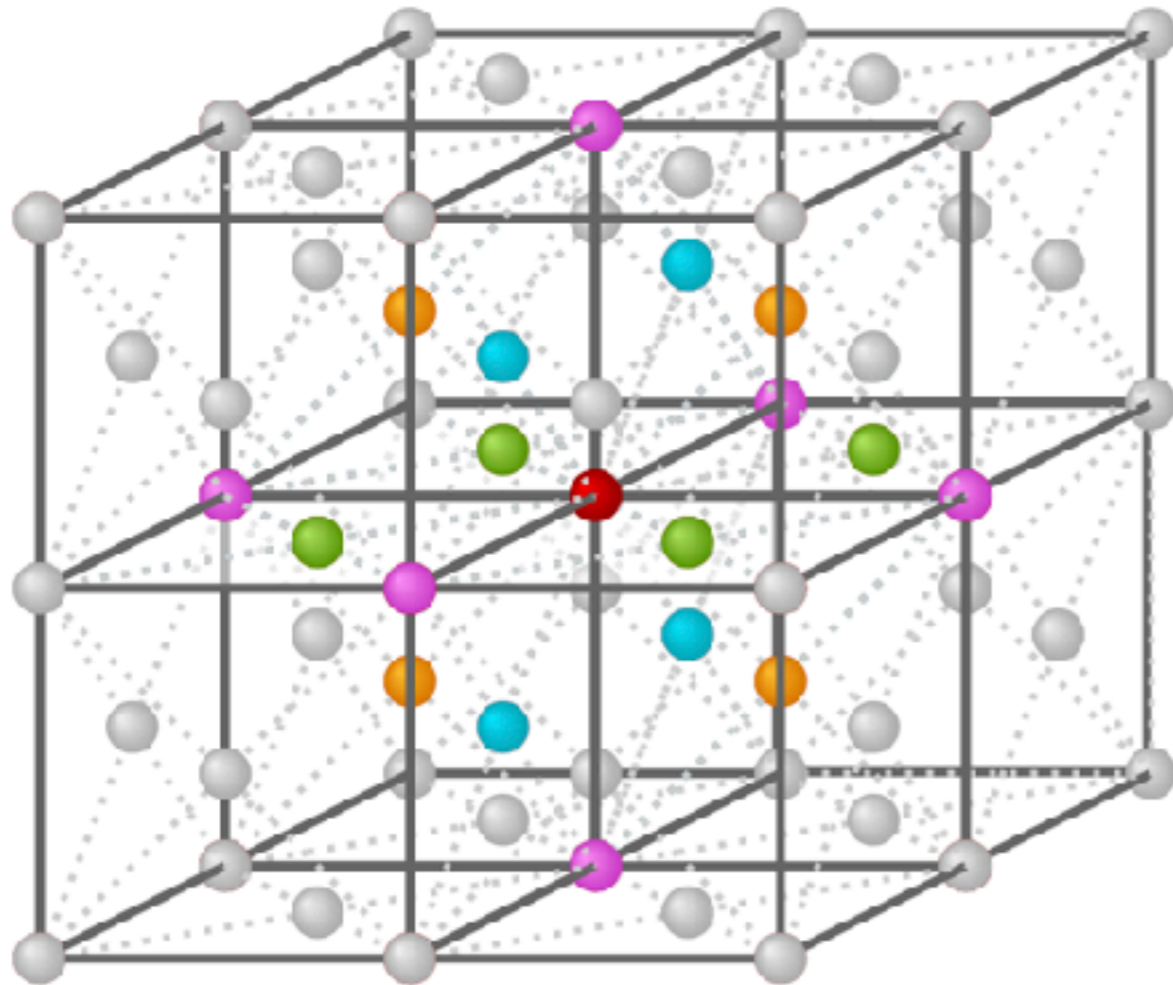


Body-centered

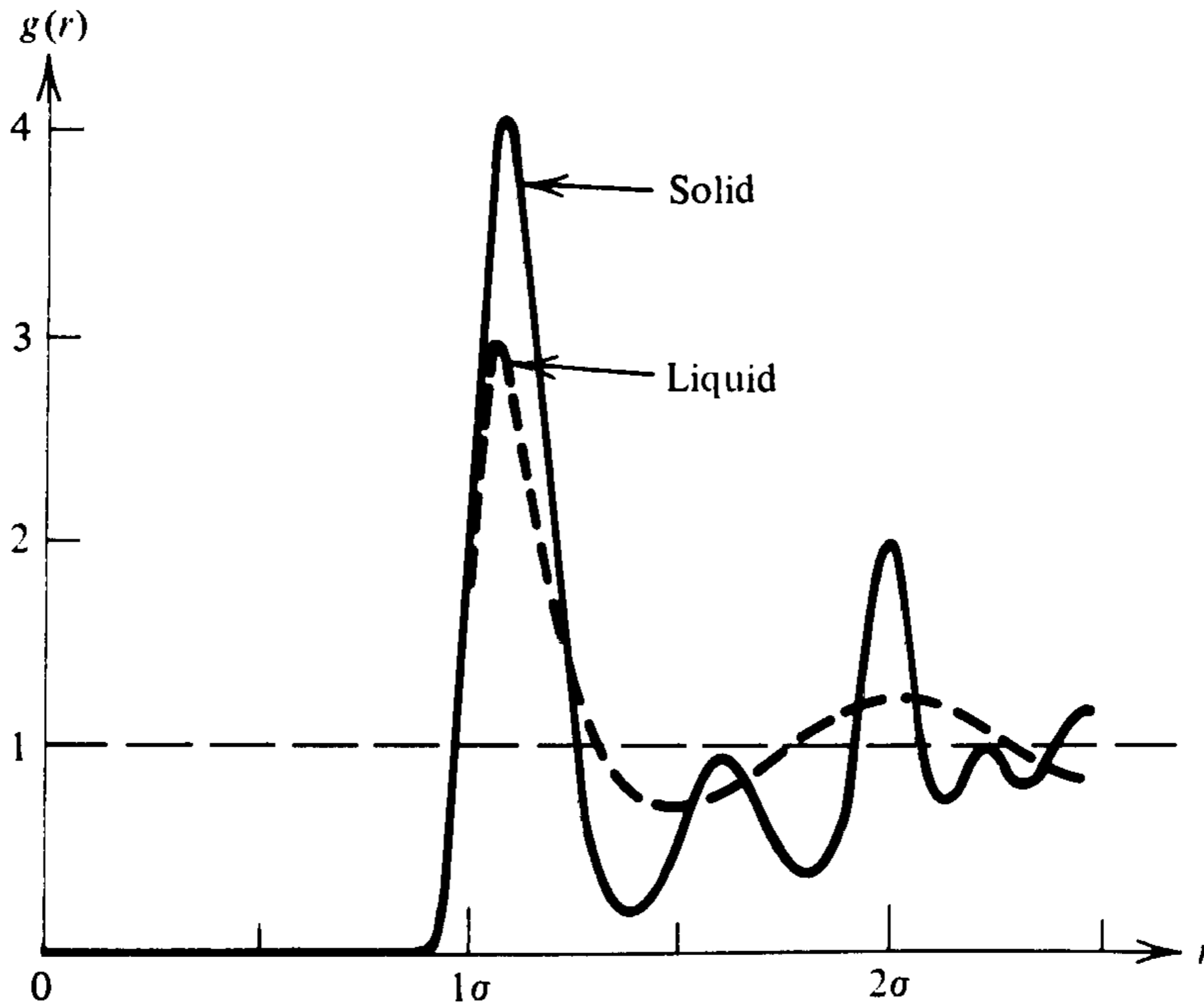


Side-centered

# Coordination numbers in face-centered cubic unit cell



- reference point
- ● ● 12 nearest neighbours
- 6 next-nearest neighbours



**Fig. 7.5.** Radial distribution functions for liquid and solid argon at the triple point ( $\sigma = 3.4 \text{ \AA}$ ).