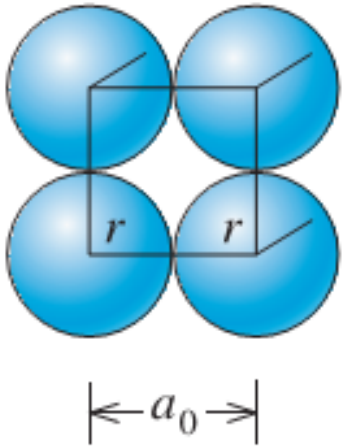
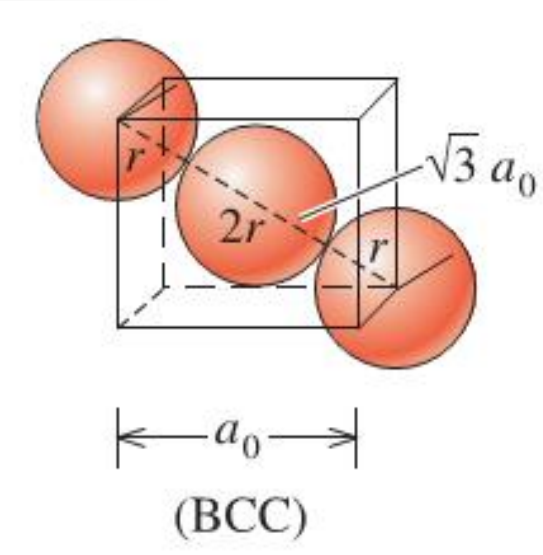
# Odrediti vezu između atomskog radijusa i parametara rešetke za SC, BCC, FCC

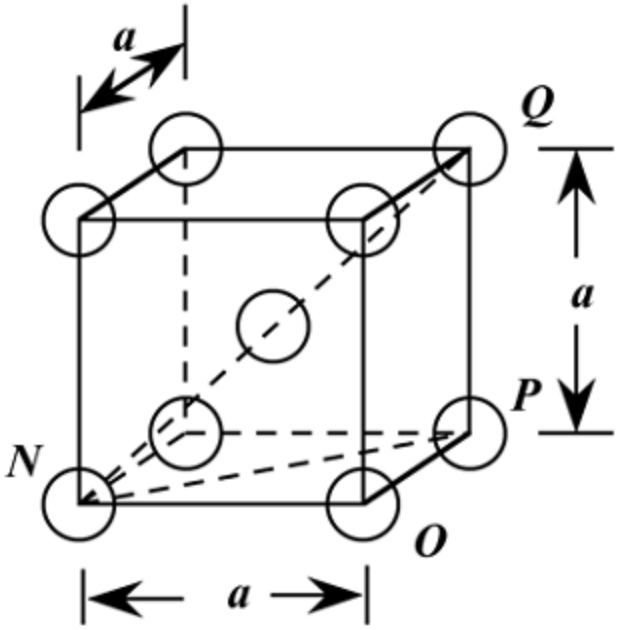



(SC)

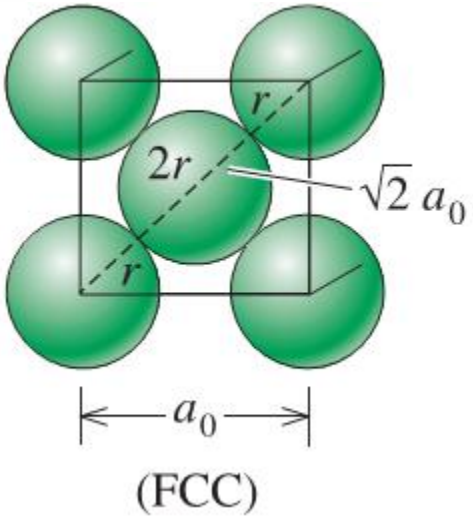
$$a_0 = 2r$$

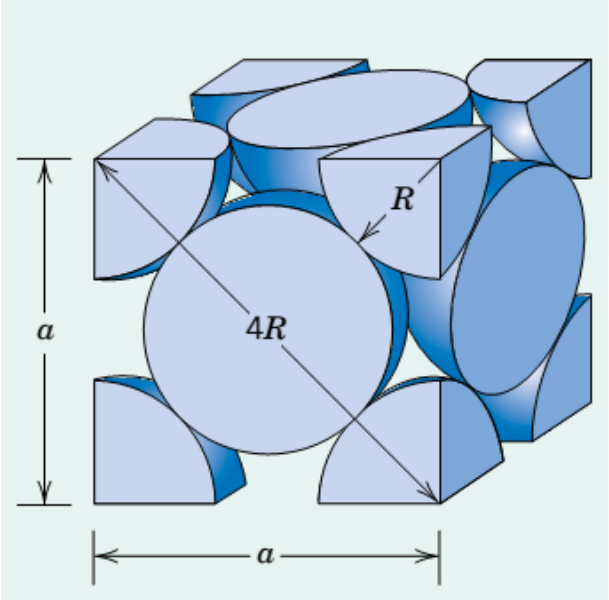
# BCC



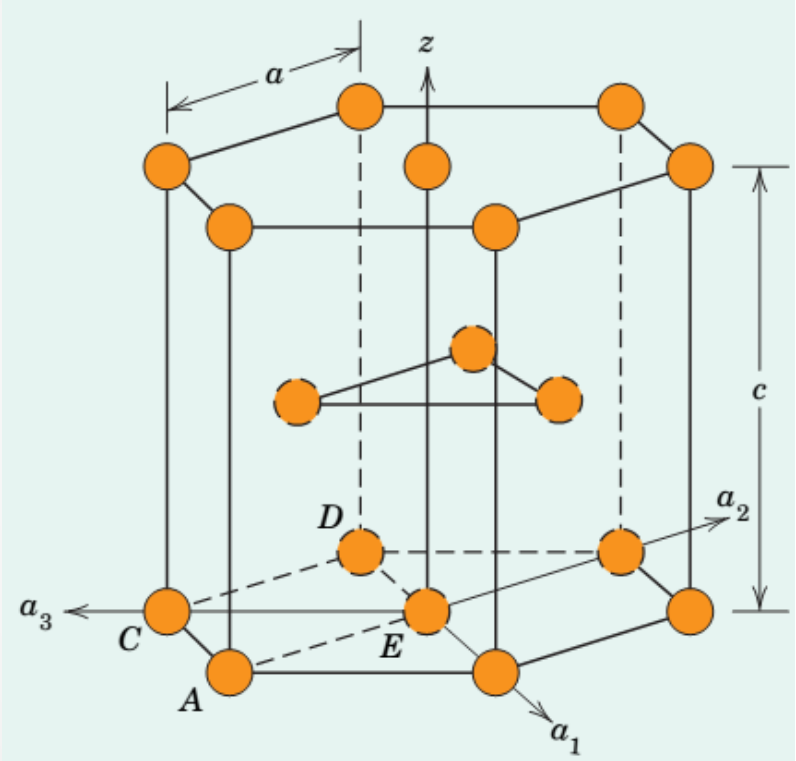



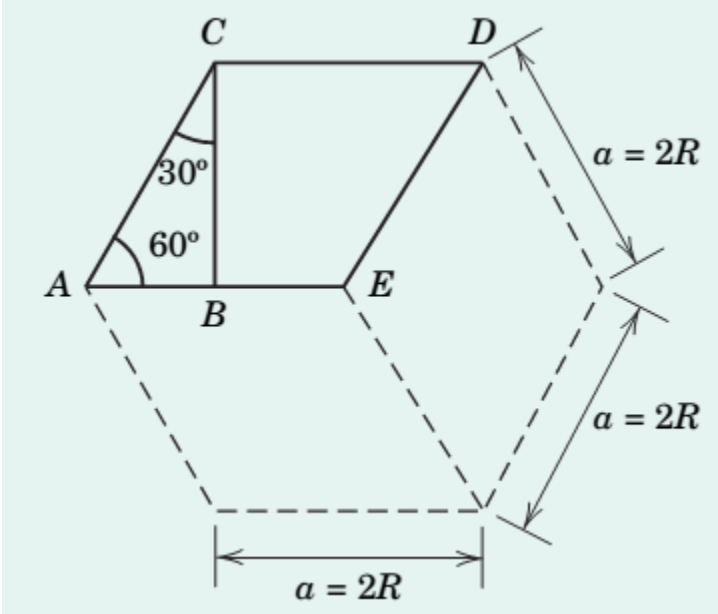
# FCC



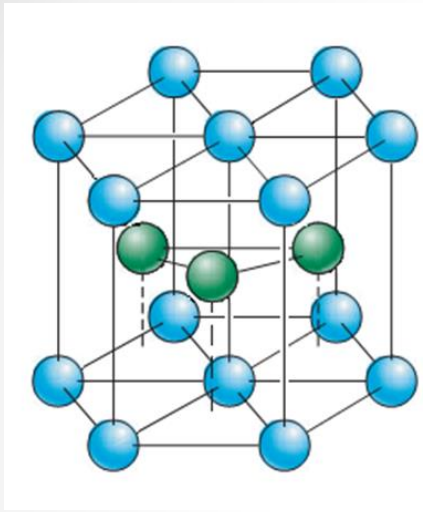



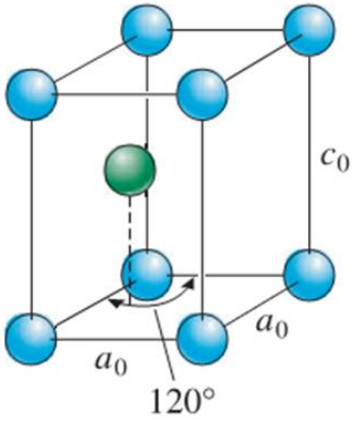
# HCP

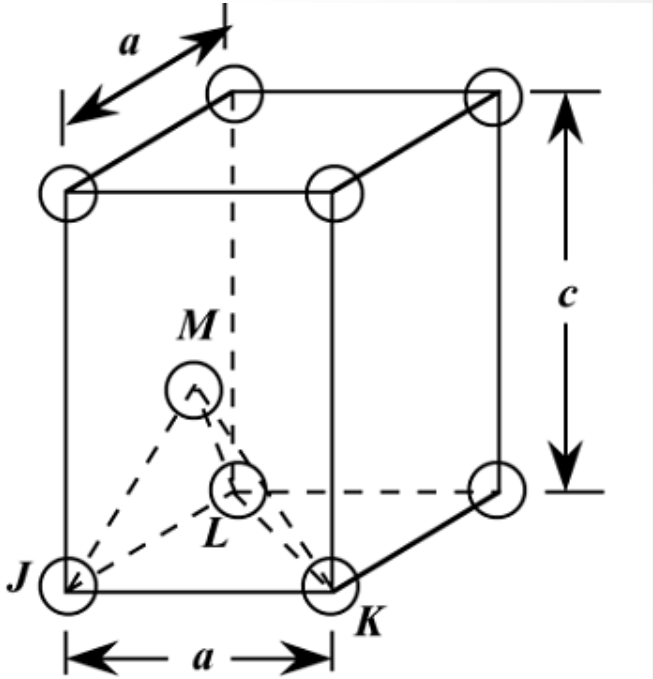


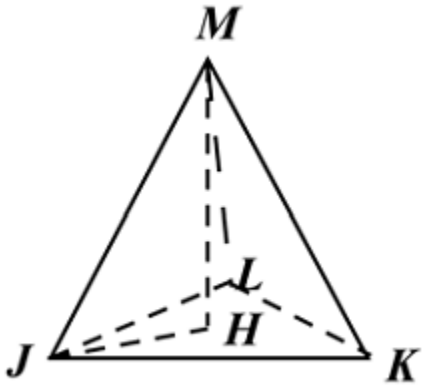



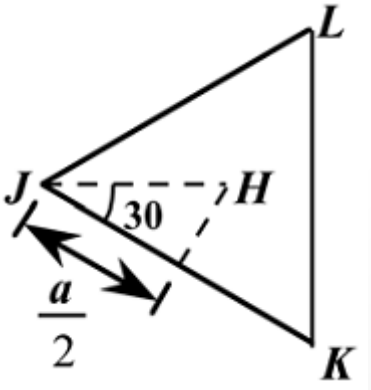
# Idealan c/a odnos kod HCP rešetke





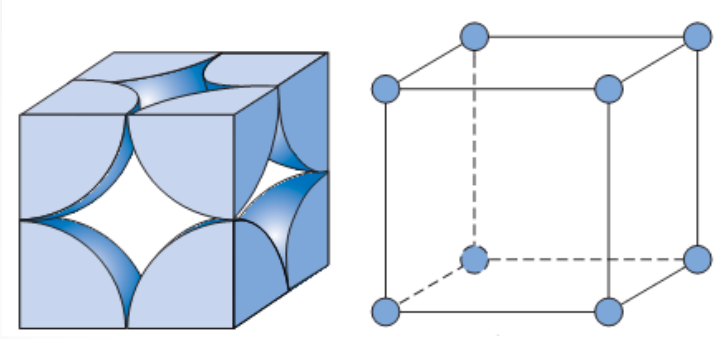
# Faktor pakovanja

- Faktor pakovanja predstavlja udeo prostora koji zauzimaju atomi u jed. ćeliji pod uslovom da su atomi čvrste sfere takve veličine da dodiruju svog najbližeg suseda.

$$\text{Faktor pakovanja} = \frac{(\text{ br. atoma/ćeliji})(\text{ zapremina svakog atoma})}{\text{zapremina jed. ćelije}}$$

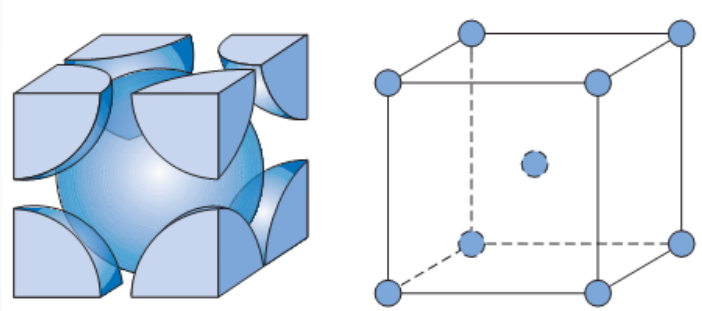
# Broj atoma po jed. ćeliji

**SC**



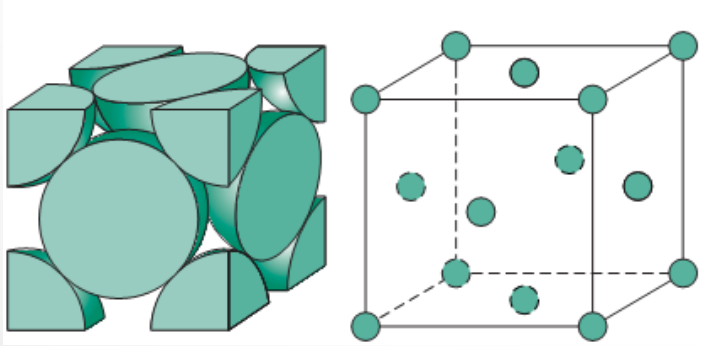
| Atoma po ćeliji |
| --- |
| 1 |

**BCC**



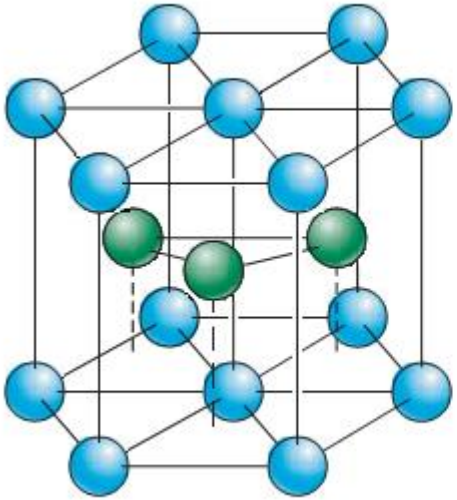
| Atoma po ćeliji |
| --- |
| 2 |

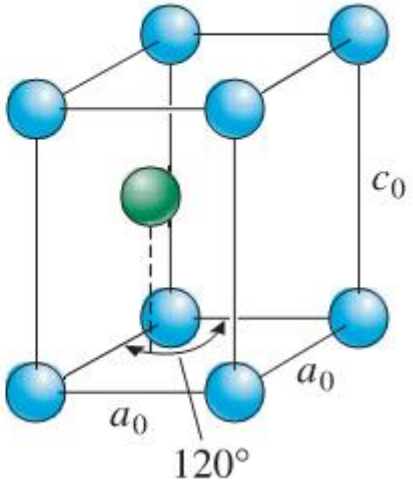
**FCC**



| Atoma po ćeliji |
| --- |
| 4 |

# Broj atoma po jed. ćeliji






| Atoma po ćeliji |
| --- |
| 3 x 2 = 6 |

**HCP je kao 3 BCC!**

# Faktor pakovanja

- Faktor pakovanja predstavlja udeo prostora koji zauzimaju atomi u jed. ćeliji pod uslovom da su atomi čvrste sfere takve veličine da dodiruju svog najbližeg suseda.

$$\text{Faktor pakovanja} = \frac{(\text{br. atoma/ćeliji})(\text{zapremina svakog atoma})}{\text{zapremina jed. ćelije}}$$

| Struktura | Fak. pak. |
|---|---|
| **Prosta kubna (SC)** | 0.52 |
| **Prostorno. centr. kubna (BCC)** | 0.68 |
| **Povr. cent. kubna (FCC)** | 0.74 |
| **Heksagonalna blisko pakovana (HCP)** | 0.74 |