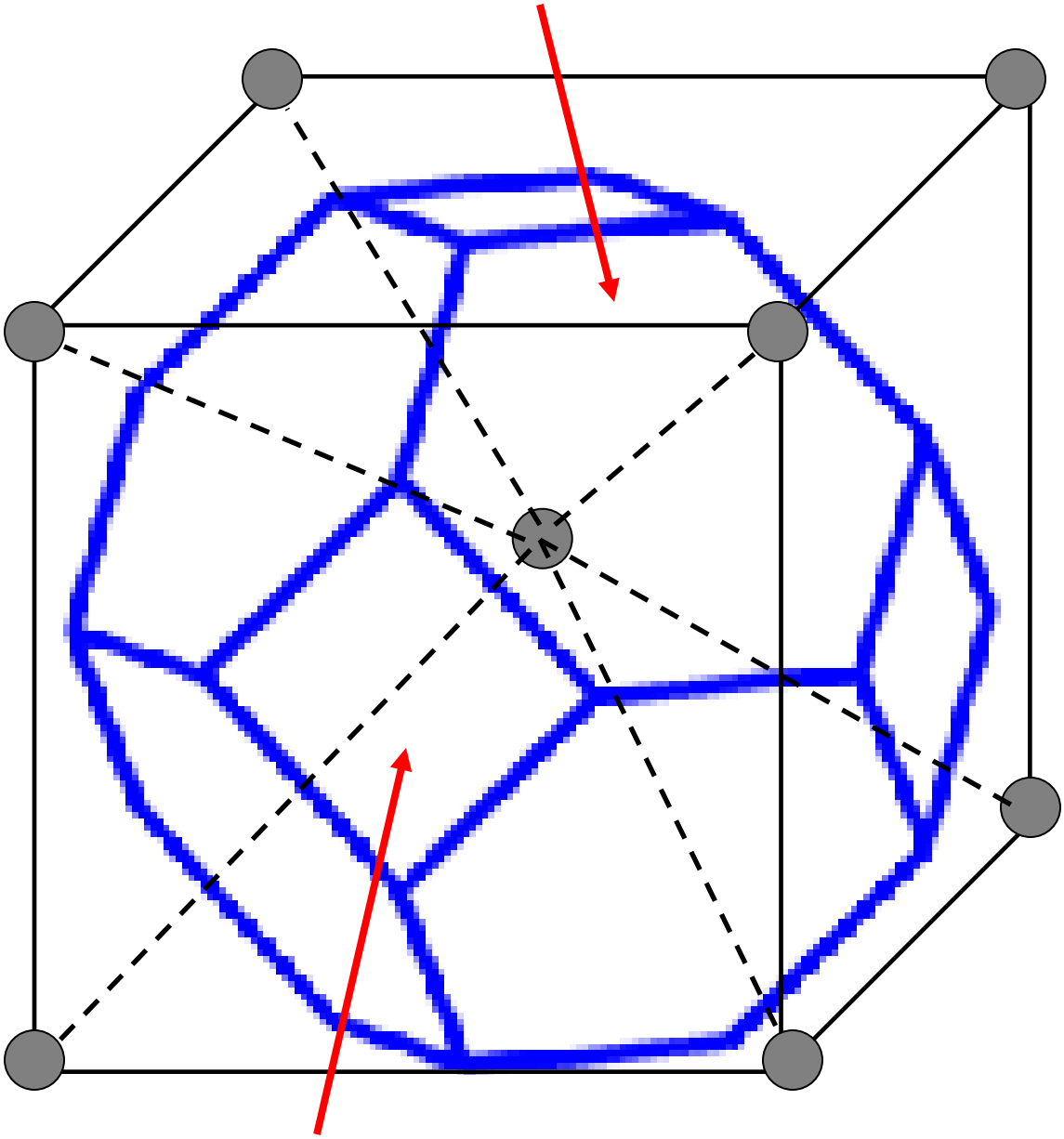
Wigner-Seitz Cell for bcc Lattice
("truncated octahedron")

(reference atom is atom in center of conventional unit cube)

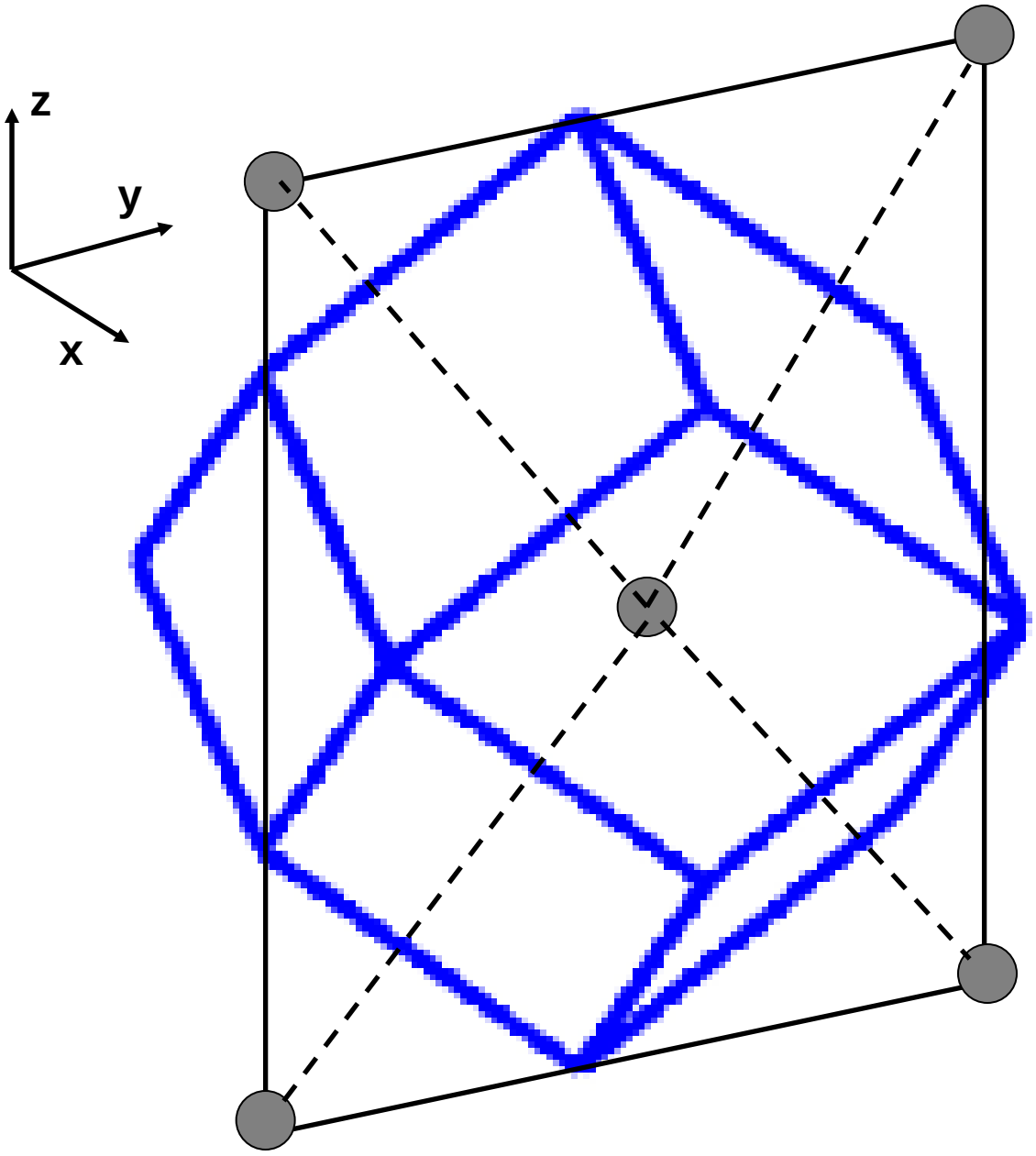
Note: eight hexagons come from bisecting planes to eight *nearest neighbor atoms*



Note: six squares in facets of conventional unit cell come from bisecting planes to *next nearest neighbors*

Wigner-Seitz Cell for fcc Lattice
("rhombic dodecahedron)

(reference atom is atom in face of conventional unit cube)

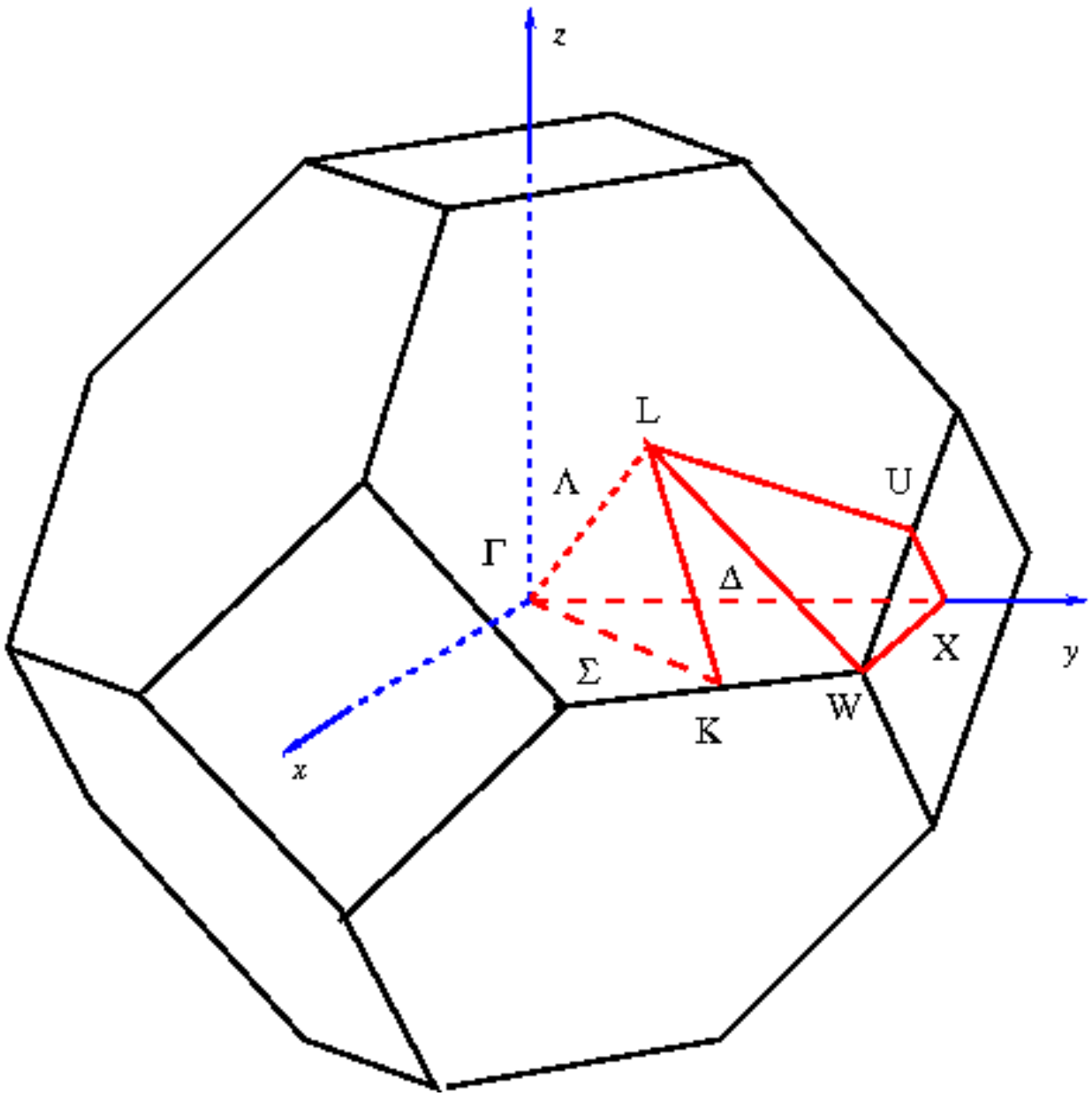


Note: all twelve quadrangles come from bisecting planes to twelve nearest atoms.

This picture shows only four nearest neighbors in the y-z plane The other eight are found by rotating the square into the x-y and x-z planes, respectively.

First Brillouin Zone for fcc Lattice

(“truncated octahedron”)



Naming Convention for Points in First BZ

Symbol	Description
Γ	Center of the Brillouin zone
	Simple cube
M	Center of an edge
R	Corner point
X	Center of a face
	Face-centered cubic
K	Middle of an edge joining two hexagonal faces
L	Center of a hexagonal face
U	Middle of an edge joining a hexagonal and a square face
W	Corner point
X	Center of a square face
	Body-centered cubic
H	Corner point joining four edges
N	Center of a face
P	Corner point joining three edges
	Hexagonal
A	Center of a hexagonal face
H	Corner point
K	Middle of an edge joining two rectangular faces
L	Middle of an edge joining a hexagonal and a rectangular face
M	Center of a rectangular face