

2019. 4. 9.

숙제 풀이.

PPT 2개

density 타일 설명

XRD, CIF Alize, Belize.

4. 16

XRD 등 conc 3개

4. 23

공간인사.

Cheer sheet

①

XRD Intensity properties. ← 강도.

XRD layer thickness. → 이온 강도 다르다.

예 #2.

Prob. 1.

• $\vec{G} = h\vec{b}_1 + k\vec{b}_2 + l\vec{b}_3,$

$$\vec{b}_1 = \frac{2\pi}{a} (-\hat{x} + \hat{y} + \hat{z})$$

$$\vec{b}_2 = \frac{2\pi}{a} (\hat{x} - \hat{y} + \hat{z})$$

$$\vec{b}_3 = \frac{2\pi}{a} (\hat{x} + \hat{y} - \hat{z})$$

• Generalized reciprocal lattice of FCC

$$\begin{aligned} \vec{G} &= \frac{2\pi}{a} \{ (h+k+l)\hat{x} + (h-k+l)\hat{y} + (h+k-l)\hat{z} \} \\ &= \frac{4\pi}{a} (v_1\hat{x} + v_2\hat{y} + v_3\hat{z}) \quad v_i = \frac{-h+k+l}{2} \end{aligned}$$

• S_G w/ 2 basis of $0, (\frac{a}{2}\hat{x}, 0, 0)$

$$S_G = \sum_j f_j e^{-i(\vec{G} \cdot \vec{r}_j)} = f_+ + f_- e^{-i2\pi v_1}$$

• If $f_+ = f_-$ & v_1 are integers, $S_G = f_+ + f_- = 2f_+$

• If $f_+ = f_-$ & v_1 are integers + half, $S_G = 0$

⑤