HW2-4 Soln)

Specifically for Bragg diffraction, we have that

$$2L\sin\theta = m\lambda \ ,$$

So

$$\theta = \arcsin\left(\frac{m\lambda}{2L}\right) .$$

Then,

m=1

$$\theta = \arcsin\left(\frac{1(0.21)}{2(3.34)}\right) = \arcsin\left(\frac{1(0.21)}{2(3.34)}\right) = 1.8^{o} .$$

m=2

$$\theta = \arcsin\left(\frac{2(0.21)}{2(3.34)}\right) = \arcsin\left(\frac{0.21}{3.34}\right) = 3.6^{o} .$$

m=3

$$\theta = \arcsin\left(\frac{3(0.21)}{2(3.34)}\right) = \arcsin\left(\frac{3(0.21)}{2(3.34)}\right) = 5.4^{o} .$$

m=4

$$\theta = \arcsin\left(\frac{4(0.21)}{2(3.34)}\right) = \arcsin\left(\frac{2(0.21)}{3.34}\right) = 7.2^{o} .$$