

**16. Kikuchi Diffraction****Problems**

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16.1. A selected-area diffraction pattern is acquired at 200 KeV from a cubic crystal with  $a = 0.29 \text{ nm}$  oriented such that the 422 (excess) Kikuchi line passes at a radial distance  $x = -0.098 \text{ nm}^{-1}$ , where the negative value indicates a position inside the 422 reflection.

- a) Estimate the excitation error of this reflection.
  - b) Determine the minimum change in tilt angle (in rad) from this initial orientation needed to obtain a two-beam condition for this reflection. (Use  $\Delta\phi = \phi_f - \phi_i$ , where  $\phi_f = g/2k$  .)
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