

Errata for the book

J. Gubicza: X-ray line profile analysis in Materials Science, Publisher: IGI-Global, Hershey, PA, USA, ISBN: 978-1-4666-5852-3 (2014).

1. In the Preface on page vi the correct form of the first sentence is:

"Crystalline materials are never ideal, perfectly ordered single crystals; rather, they contain lattice defects such as grain boundaries, planar faults, dislocations, disclinations, vacancies, and interstitial atoms."

2. On page 3, above eq. (1.1) the correct form of the text is:

"Accordingly, Fig. 1 shows that the difference between the paths of the X-ray beams scattered from the two electrons is $(\mathbf{k}_o - \mathbf{k}) \cdot \mathbf{r} / |\mathbf{k}_o| = -\boldsymbol{\kappa} \cdot \mathbf{r} / |\mathbf{k}_o|$, where $\boldsymbol{\kappa} = \mathbf{k} - \mathbf{k}_o$ is referred to as scattering vector."

3. On page 3, in Fig. 1:

$\mathbf{k}_o \cdot \mathbf{r}$ must be replaced by $\mathbf{k}_o \cdot \mathbf{r} / |\mathbf{k}_o|$ and $-\mathbf{k} \cdot \mathbf{r}$ must be replaced by $-\mathbf{k} \cdot \mathbf{r} / |\mathbf{k}|$

4. In Chapter 1, the imaginary unit "i" is missing from the exponents in eqs. (1.11), (1.12), (1.13) and (1.14).

5. Page 55: the right form of eq. (3.14) is

$$y(L) = f^2 \left(1 + 2\pi i g L \langle \varepsilon \rangle - 2\pi^2 g^2 L^2 \langle \varepsilon^2 \rangle \right).$$

6. Page 122: the correct form for the average number of lattice planes between adjacent twin faults is

$$\sum_{n=1}^{\infty} n W(n) = \beta_t^{-1}$$

7. Page 126: the right form of eq. (4.21) is

$$FWHM_{tri} = \sum_{j=1}^5 c_j \beta_t^j$$

8. Page 201: eq. (6.43) is

$$A_{hkl}^F(L) = \exp \left[-2\pi \left(\frac{FWHM_{hkl}}{2} |L| + L \Delta_{hkl} \right) \right]$$

9. Page 280: the right form of eq. (9.9) is

$$\bar{C}_{hk0}^m (I + q_1^m z + q_2^m z^2) b_m^2 = \sum_{i=1}^{ll} f_i \bar{C}_{hk0}^i (I + q_1^i z + q_2^i z^2) b_i^2$$