

Corrections to Electron Energy-Loss Spectroscopy in the Electron Microscope (3rd edition, 2011)

In approximate order of importance:

Page 123: the square-bracket term in Eq.(3.12f) should be replaced by $[1/\sin^2(\theta_{\min}/2) - 1/\sin^2(\theta_{\max}/2)]$

Likewise, two lines further down, $X = [1/\sin^2(\theta_{\min}/2) - 1/\sin^2(\theta_{\max}/2)]$.

These changes have been made in the program SigADF.m, downloadable from this website.

Page 125: $(\theta^2 + \theta_E^2 + \theta_E^2)$ in the denominator of Eq.(3.15) should be $(\theta^2 + \theta_E^2 + \theta_E^2)^2$, as in the Second Edition.

Page 157: $(\theta^2 + \theta_E^2)$ in the denominator of Eq.(3.75) should be $(\theta^2 + \theta_E^2)^2$, as in the Second Edition.

Page 112: The right-hand side of Eqs.(3.1) and (3.2) should contain a factor of γ^2 to be consistent with Eq.(3.3).

Page 50: In Eq.(2.11), the last matrix term in the third row should be changed from 0 to $R \cdot \phi$;

this correction has been made in the program Prism.m, downloadable from this website.

Page 246, Fig. 4.4(c): the solid line represents ϵ_2 and the dashed line represents ϵ_1

Page 245, line 8: $\epsilon_1(\epsilon_1^2 + \epsilon_2^2)$ should be $\epsilon_1/(\epsilon_1^2 + \epsilon_2^2)$

Page 132, line 2: $\epsilon_2/(\epsilon_1^2 + \epsilon_2^2)^{1/2}$ should be $\epsilon_2/(\epsilon_1^2 + \epsilon_2^2)$

Page 138, 2nd paragraph: $0.16(\Delta E_p/E_p)$ should be $0.16(E_p/\Delta E_p)$.

Page 183, caption to Fig.3.34: 1-keV should read 100-keV.

Page 160: as pointed out by Prof. Wilfried Sigle, the thin-film mode in which like charges are facing each other is the low-energy mode because the real part of epsilon is negative in metals in this energy range. Therefore "higher" should be changed to "lower" in Fig.3.23 caption.

Page 224, 3rd paragraph: (diameter a) should read (radius a).

Page 404, Table A.1: For $E_0 = 200\text{keV}$, θ_m/θ_E should be 1.04, not 1.22.

Page 47, below Eq.(2.6): $2\gamma T = E_0(2m_0c_2 + E_0)/(m_0c_2 + E_0)$, as stated at the bottom of page 50.