p.27, Equation (2.3.24)

There is a factor 1/2 missing in the second line. It now reads

$$\begin{aligned} \mathbf{J}_{\mathrm{cond}} \cdot \mathbf{E} &= \hat{\sigma}\mathbf{E} \cdot \mathbf{E} \approx \frac{-i\omega}{4\pi\mu_1}\hat{N}^2\mathbf{E} \cdot \mathbf{E} \\ &\approx \frac{1}{2}\left[\frac{2nk\omega}{4\pi\mu_1} - i\frac{\omega}{4\pi\mu_1}(n^2 - k^2)\right] E_0^2 \end{aligned}$$

There also is a factor 1/2 missing in the equation two lines lower:

$$P = \tfrac{1}{2}\sigma_1 E_0^2$$

p. 42, before Eq. (2.4.23)

the electric field is not normal but parallel to the surface. Thus the sentence should read:

$\hat{Z}_S$ was defined as the ratio of the electric field **E** parallel to the surface of a metal to the toal current density **J** induced in the material:

p. 44, Equation (2.4.28)

The sign of the imaginary part has to be negative:

$$\hat{Z}_S = \frac{(2\pi)^2 \mu_1}{c}\frac{\delta_0}{\lambda_0}(1 - i)$$

p. 50, Eq. (3.1.10) - (3.1.12)

The derivation of Eq. (3.1.12) is not straight foreward, since the previous Equation (3.1.10) is not fully correct. The displacement field D used in this equation has to be redefined, but eventually cancels in Eq. (3.1.11). The complete derivation is given here.

p. 72

The Hamilton operator of Eq. (4.1.1) describes the energy density per unit volume; thus it should be called Hamiton density.

p. 74, Equation (4.1.10)

The formula should read:

$$\vec{A}(\vec{q}) = \frac{1}{\Omega}\int \vec{A}(\vec{r})\exp(-i\vec{q}\cdot\vec{r})d\vec{r}$$

p. 88, line 3

The Coulomb gauge should read $\nabla \cdot \mathbf{A} = 0$ as correctly given in Eq. (2.1.6).

p. 95, Equation (5.1.9): The sign in the denominator is incorrect. The formular shoud read:

$$\hat{\epsilon}(\omega) = \epsilon_1(\omega) + \mathrm{i}\epsilon_2(\omega) = 1 - \frac{\omega_p^2}{\omega 2 + \mathrm{i}\omega/\tau}$$

p.99, last line of figure caption

The approximation shows deviations from the Drude model for frequencies above the scattering rate γ.

p. 117, Fig. 5.11

the equations in the two parabola are incorrect, since $\hbar$ has to be replaced by $\hbar^2$ hence they should read:

$$\hbar\omega = \frac{\hbar^2}{2m}(q^2 + 2qk_F)$$

$$\hbar\omega = \frac{\hbar^2}{2m}(q^2 - 2qk_F)$$

p.167, line 3

The sentence should read:
..., and thus delocalization occurs if the impurity concentration exceeds a certain critical concentration.

p. 246, sec 10.1.1

The Hagen-Rubens relation quoted in the text is incorrect. It should read:

$$1 - R(\omega) \propto \sqrt{\omega}$$

p. 319, line 6 from the bottom the sentence should read:

In this case the (originally) localized orbitals at energy position E_d (or E_f) away from the Fermi level are broadened, due to interaction with the conduction band; ...

p. 323, after Eq. (12.2.7)

Fermi gas instead of Fermi glass

p. 374, Fig. 14.1 (a)

The axis should be labelled T_c/T

p. 383, line 15

The equation referred to should read (12.2.14)

p.385, line 3 from bottom

The sentence should read: First, because the nodes in the gap extend to zero energy, ...

p. 459, Fig. F.6

the equations in the two parabola are incorrect, since ħ has to be replaced by $\hbar^2$ hence they should read:

$$\hbar\omega = \frac{\hbar^2}{2m}(q^2 + 2qk_F)$$

$$\hbar\omega = \frac{\hbar^2}{2m}(q^2 - 2qk_F)$$