

Massimo Rudan, *Physics of Semiconductor Devices*, Springer (2015), ISBN 978-1-4939-1150-9 (-1151-6 eBook)

Section	Equation	<i>Erratum</i>	<i>Corrige</i>
Acronyms, line 2 of item “DD”	—	each band	each energy band
Acronyms, line 2 of item “HD”	—	each band	each energy band
2.4, right before Eq. (2.18)	—	<i>there should be no new line between “and” and “S =”</i>	
2.6.4, right after Eq. (2.27)	—	Letting the sum to vanish	Letting the sum vanish
2.9, Fig. 2.1, $x$ axis	—	$x$ $B$	$x_B$
3.2, 9 lines from the bottom	—	is reverses	it reverses
3.6, 2 lines after Eq. (3.22)	—	due to to the collision	due to the collision
3.7, 3 lines after Eq. (3.30)	—	may have sign	may have a sign
3.11, right after Eq. (3.55)	—	As in the unperturbed	Like in the unperturbed
5.5	(5.24)	$\dots = i \sum_k \dots$	$\dots = i \sum_k \dots$
5.9, right before Eq. (5.49)	—	in vacuo	<i>in vacuo</i>
6.2, paragraph 2, line 5	—	This problem is present also	This aspect is present also
6.4, right after Eq. (6.15)	—	$\cdot^4$	$\cdot^4$
6.6.2	(6.32)	$\bar{\zeta} = \dots$	$\text{Av}[\zeta] = \dots$
6.6.2	(6.36)	$\bar{\zeta} = \dots$	$\text{Av}[\zeta] = \dots$
6.6.2	(6.37)	$\bar{E} = \dots$	$\text{Av}[E] = \dots$
6.6.2	(6.38)	$\bar{E} = \dots$	$\text{Av}[E] = \dots$
7.2, line 2 of note 6	—	coindices with the lower	coincides with the lower
7.3, 6 lines before Eq. (7.16)	—	Maxwell-Boltzmann distribution	Maxwell-Boltzmann distribution
7.4.1, right before Eq. (7.18)	—	$\overline{nh\nu} = \dots$	$\text{Av}[nh\nu] = \dots$
7.4.1	(7.18)	$\overline{nh\nu} = \dots$	$\text{Av}[nh\nu] = \dots$
8.3, 2 lines after Eq. (8.12)	—	positive numbers	non-negative numbers
8.3, 3 lines before Eq. (8.13)	—	$ c ^2 = 1/ \varphi ^2$	$ c ^2 = 1/ f ^2$
8.3.1, right before Eq. (8.21)	—	is called Hermitean	is called <i>Hermitean</i>
8.4, paragraph 3, line 1	—	only one eigenfuction	only one eigenfunction
9.2, line 1	—	Following De Broglie’s line	Following de Broglie’s line
9.2, line 7	—	of De Broglie’s theory	of de Broglie’s theory
9.4, note 1	—	$\dots = m^{-2} t^{-1}$	$\dots = m^{-2} s^{-1}$

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9.7.3, 2 lines before Eq. (9.33)	—	definition of (10.13)	definition (10.13) of the
9.7.3, 6 lines from the bottom	—	had been noted by	had been observed by
10.3, 2 lines after Eq. (10.4)	—	Given a function	Given a square-integrable function
10.3	(10.8)	$\hat{p} = \dots$	$\hat{\mathbf{p}} = \dots$
11.2.2, 4 lines before Eq. (11.11)	—	whould	would
11.2.2, right before Eq. (11.14)	—	wider	broader
11.4, 3 lines before Eq. (11.36)	—	by hypotesis	by hypothesis
12.2, 3 lines after Eq. (12.7)	—	identically, whereas	identically; in turn,
12.6.1, second to last line	—	harmonic oscillator	linear harmonic oscillator
13.5	(13.40)	$\dots 2 m r \dots$	$\dots 2 m_0 r \dots$
13.6.1, 2 lines after Eq. (13.60)	—	the above finding,	the above findings,
14.1, line 15	—	form an isolated	forms an isolated
14.4, line 3	—	$a_s(t_P)$	$a_s(t_P)$
15.3, 4 lines after Eq. (15.9)	—	coordinate group	coordinate groups
15.5, 5 lines after Eq. (15.16)	—	antisymmmetrical	antisymmetric
15.6, second to last line	—	applies to system	applies to systems
15.7, 3 lines after Eq. (15.30)	—	Eq. (15.28)	equation like (15.28)
15.8.2, line 3	—	subject	subjected
15.9.5, 2 lines before Eq. (15.78)	—	experimentally,	experimentally.
16.1, 10 lines from the bottom	—	identical particles	identical fermions
16.3, 6 lines after Eq. (16.15)	—	in turn, the part	the part
16.6	(16.28)	$V_a(\vec{R}) = U_a(\vec{R}) + \dots$	$V_a(\mathbf{R}) = U_a(\mathbf{R}) + \dots$
16.6	(16.28)	$\dots + E_e(\vec{R}_0) + U_u(\vec{R}_0).$	$\dots + E_e(\mathbf{R}_0) + U_u(\mathbf{R}_0).$
17.2, 3 lines from the bottom	—	of GaAs	of Si, Ge, and GaAs
17.2, last line	—	of the table	of Table 17.2
17.3, 2 lines after Eq. (17.9)	—	form. It follows that	form. As a consequence it is
17.3, 3 lines after Eq. (17.9)	—	that the direct lattice	the direct lattice
17.5, 4 lines after Eq. (17.22)	—	that is provisionally left	that is momentarily left
17.6, line 6	—	This means the nuclei	This means that the nuclei
17.6.5.2, caption of Fig. 17.18	—	[100] direction	[111] direction

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17.6.5.2, Fig. 17.18, $x$ axis	—	[100] direction	[111] direction
17.6.6, paragraph 2, line 6	—	tend increase the electron	tend to increase the electron
17.6.6, line 1 of note 19	—	the fact the large-area,	the fact that large-area,
17.6.8, right after Eq. (17.105)	—	As in the case	Like in the case
17.7.2, line 2 of note 21	—	translation	translationally-invariant
18.4, note 10	—	such as case	such a case
18.4.1.1, right before Eq. (18.17)	—	intrinsic	intrinsic
18.4.1.1, right after Eq. (18.24)	—	form a system	forms a system
18.4.2.2, Eq. (18.45)	—	$\varphi_F = -\frac{k_B T}{q} \dots > 0$	$\varphi_F = \frac{k_B T}{q} \dots > 0$
18.4.3, right before Eq. (18.48)	—	donor dopant	donor-dopant concentration
18.4.3, 2 lines after Eq. (18.48)	—	acceptor dopant	acceptor-dopant concentration
18.4.3, Eq. (18.52)	—	$\varphi_F = \dots < 0$	$\varphi_F = \dots > 0$
18.5, note 16	—	Sect. 23.3.	Sect. 19.3.3.
18.5, right after Eq. (18.58)	—	Note that the summands	The summands
18.5, 2 lines after Eq. (18.60)	—	first relation	the first relation
18.6, right before Eq. (18.67)	—	which is [100,101]	which is, for silicon [100,101]
18.7.2, 13 lines from the bottom	—	coincide	coincides
18.7.2, 9 lines from the bottom	—	loose	lose
18.7.3, note 20	—	subject to the force	subjected to the force
19.5.2, note 31	—	$-q(n/6) \sum_{a=1}^{M_C} \mathbf{v}_a$	$-q(n/M_C) \sum_{a=1}^{M_C} \mathbf{v}_a$
19.5.2, note 31	—	$\mathbf{v} = (1/6) \sum_{a=1}^{M_C} \mathbf{v}_a$	$\mathbf{v} = (1/M_C) \sum_{a=1}^{M_C} \mathbf{v}_a$
19.6.4, 5 lines before Eq. (19.158)	—	$\eta^2 \mathbf{i}$	$\eta^2 \mathbf{i}_i$
19.6.4, 3 lines before Eq. (19.158)	—	$\eta^4 \mathbf{i}$	$\eta^4 \mathbf{i}_i$
20.2.1, 2 lines before Eq. (20.5)	—	$r_a - r_p$	$r_a - r_b$
20.2.3, line 9	—	thought of aligned	thought of as being aligned
20.2.3, 3 lines before Eq. (20.28)	—	traps levels	trap levels

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20.2.3, right before Eq. (20.28)	—	In conclusion, one finds	With this provision, one finds
20.4, line 1 of note 14	—	time-dependence	time dependence
20.4, note 15	—	the two-particle	two-particle
20.5.2, 6 lines after Eq. (20.63)	—	number ionized impurities	number of ionized impurities
20.5.2, 3 lines before Eq. (20.64)	—	the model is modified	the expression is modified
20.5.4, 8 lines after Fig. 20.7	—	interaction	interactions
21.2.1	(21.4)	$\dots = k_B T \log \left( \frac{N_A N_D}{k_B T} \right),$	$\dots = k_B T \log \left( \frac{N_A N_D}{n_i^2} \right),$
21.2.1	(21.5)	$\psi_0 = k_B T \log \left( \frac{N_A N_D}{k_B T} \right),$	$\psi_0 = \frac{k_B T}{q} \log \left( \frac{N_A N_D}{n_i^2} \right),$
21.3.1, 6 lines after Eq. (21.23)	—	minority carries	minority carriers
21.3.1, 8 lines after Eq. (21.23)	—	$\dots q D_n dp/dx \simeq q D_n dp/dx$	$\dots q D_n dn/dx \simeq q D_n dn/dx$
21.3.1, 4 lines after Eq. (21.32)	—	$I_U$ increases with $ V $ .	$ I_U $ increases with $ V $ .
21.6.1, third line	—	minority carries	minority carriers
21.6.3, right after Eq. (21.74)	—	expression (21.72) of the	expression (21.73) of the
22.3, inset of Fig. (22.9)	—	$r \quad r$	$r \quad r$
22.4.1, first line	—	p-type	p-type
22.4.1, inset of Fig. (22.13)	—	$n/p_{p0} \quad (N_A - p)/p_{p0}$	$n/p_{p0} \quad (N_A - p)/p_{p0}$
22.6.2, right after Eq. (22.57)	—	$-\beta \gamma \sqrt{\varphi_s}$	$\beta \gamma \sqrt{\varphi_s}$
25.3	(25.22)	$\dots \exp(-t/\tau_p) (4 \pi D_p t)^{3/2} \dots$	$\dots \exp(-t/\tau_p) \dots$
B.4, 2 lines before Eq. (B.21)	—	$\gamma \doteq \dots$	$\gamma = \dots$
B.4, 2 lines before Eq. (B.21)	—	$\zeta \doteq \dots$	$\zeta = \dots$
B.4, 2 lines before Eq. (B.21)	—	$\sigma \doteq \dots$	$\sigma = \dots$
B.5, after Eq. (B.38)	—	further by improved	further be improved
C.16, right before Eq. (C.128)	—	$B_4 = -1/30$	$B_4 = -1/30$ , one finds
Solutions, 15 <sup>th</sup> line of Sol. 5.2	—	(D)	the relation above
Solutions, last Eq. of Sol. 6.1	—	$\overline{E}_n = \dots$	$\text{Av}[E_n] = \dots$
Solutions, second to last line of Sol. 13.2	—	$r_1$ is the radius	$r_1$ the radius
Solutions, third and sixth line of Sol. 15.1	—	$E(P = 0.9) - E(P = 0.1)$	$E(P = 0.1) - E(P = 0.9)$
Solutions, fourth and sixth line of Sol. 15.1	—	$E(P = 0.99) - E(P = 0.01)$	$E(P = 0.01) - E(P = 0.99)$
Solutions, last line of Sol. 23.2	—	$\mu\text{m}$	$\mu\text{m}$ .