

the exact long-wavelength expression

$$E_t^s(g, d) = -\frac{A\hbar}{8\pi} \int_0^\infty dk_{\parallel} k_{\parallel} \omega_p [1 + O(\beta^2 k_{\parallel}^2)], \quad (1)$$

which is independent of d . In obtaining Eq. (1) we have used the fact that

$$[(1 + \delta)^2 - 1] \omega_p^2(k_{\parallel}) \gg \beta^2 k_{\parallel}^2$$

and expanded $f(0, k_{\parallel}^2)$ in power series for $\beta k_{\parallel} \ll \omega_p(k_{\parallel})$. In the case of an isolated half-space, the total contribution to the surface correlation energy not due to surface plasmons is then

$$\frac{1}{2} [E_t^s + E_t^s(d)] = -\frac{A\hbar}{4\pi} \int_0^\infty dk_{\parallel} k_{\parallel} [\frac{3}{4} \omega_p + O(\beta k_{\parallel})], \quad (2)$$

which agrees with the result of Ref. 7 in the second paper (see footnote 20) as well as with the result obtained by going directly to the local limit in Eq. (36) of the first paper.

We note that the dispersion corrections in $E_t^s(g, d)$, which cannot be evaluated in closed form, depend explicitly on the separation d of the two half-spaces. These corrections will therefore give some contribution in the Van der Waals energy $U(d)$ and in the surface energy σ_c . However, we expect these effects to be small compared with the surface-plasmon effects because of the relative weakness of the frequency resonance (γ^{-1}) involved in $E_t^s(g, d)$.

Finally, we emphasize the distinct physical nature of the two contributions E_t^s and $E_t^s(d)$ in the surface correlation energy. While E_t^s is independent of d and describes a genuine bulk-plasmon effect (*Begrenzung* effect), $E_t^s(d)$ has a mixed character because, on the one hand, it depends on surface conditions (separation d , etc.) and, on the other hand, its magnitude is determined by excitation frequencies lying close to the bulk mode frequency $\omega_p(k_{\parallel})$.

Erratum: Dielectric matrix for aluminum [Phys. Rev. B **12**, 564 (1975)]

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Due to an interpolation error in the function $G(\vec{k})$ for exchange and correlation correction, the values of ϵ_{corr} for small values of k are in error. These errors are significant only for the two lowest values of k considered. Thus Table IV should be corrected to read (only the top two rows)

$\vec{p} + \vec{K}_t$	$ p + K_t ^2$	$Q_{tt}(p)$	ϵ_{RPA}	ϵ_{corr}	ϵ_{FE}
(1, 0, 0)	1	-2.321	25.77	38.23	49.11
(1, 1, 0)	2	-2.384	13.72	20.19	24.59

The correction to $\epsilon_{tt}(\vec{p})$ for $\vec{p} = (1, 0, 0)$ ($\pi/2a$) will cause the first row of Table V to be modified [this row is generated by using $\epsilon_{tt}(\vec{p})$ as given by Eq. (36b)]. The corrected values are given below:

\vec{K}_t	\vec{K}_s						
	(0, 0, 0)	($\bar{4}$, 4, 4)	($\bar{4}$, 4, $\bar{4}$)	($\bar{4}$, $\bar{4}$, 4)	($\bar{4}$, $\bar{4}$, $\bar{4}$)	($\bar{8}$, 0, 0)	
(0, 0, 0)	38.23	1.558	1.558	1.558	1.558	1.057	

\vec{K}_t	\vec{K}_s								
	(4, 4, 4)	(4, 4, $\bar{4}$)	(4, $\bar{4}$, 4)	(4, $\bar{4}$, $\bar{4}$)	(0, 8, 0)	(0, $\bar{8}$, 0)	(0, 0, 8)	(0, 0, $\bar{8}$)	(8, 0, 0)
(0, 0, 0)	0.417	0.417	0.417	0.417	-0.462	-0.462	-0.462	-0.462	-2.361

Finally, in Eq. (A15) on p. 573, the operator Γ_t in m_{in}^* should not have a prime on it. Thus the equation will read

$$S = \sum_{\gamma} m'_{in}(\vec{p}' + \vec{K}'_s, \gamma'_s \Gamma_s \gamma \alpha \vec{q}) m_{in}^*(\vec{p}' + \vec{K}'_t, \gamma'_t \Gamma_t \gamma \alpha \vec{q}). \quad (\text{A15})$$