

Erratum

The Dielectric Constant of Liquid Metals

J. S. Helman and W. Baltensperger

Phys. kondens. Materie 5, 60 (1966)

The formulas of the paper apply to a grand canonical ensemble; the following corrections arise from the dependence of the chemical potential on the scattering. Eq. (16) must be replaced by

$$\Pi^{(0)} = \frac{k^2 N e^2}{m \Omega^2} (1 - \lambda)$$

with

$$\lambda = \frac{4m^2}{N(2\pi)^4} \int_0^\infty dq q |V_q|^2 S(q) \ln \left| \frac{q + 2p_F}{q - 2p_F} \right|.$$

In Sect. 5, $\gamma(\Omega)$ must always be replaced by $\gamma(\Omega) - \lambda$. Note that λ cancels with the frequency independent part of $\gamma(\Omega)$. Eq. (38) must be replaced by

$$\gamma_0 = \frac{16m^2}{3(2\pi)^4 N} \int_0^\infty dq q |V_q|^2 S(q) \left\{ \frac{1}{4} \ln \left| \frac{q + 2p_F}{q - 2p_F} \right| + \frac{qp_F}{(2p_F)^2 - q^2} \right\}.$$

These changes do not modify the results of Appendix C.