Abstract:

We derive a high-frequency expansion for all elements of the quasi-one-dimensional quantum plasma dielectric tensor at T=0 K for quantum particles with spins. In addition to the known results for spinless case, we find that Ω S.5 Emphasis>/12 (k) and Ω S.5 23 (k) are the only frequency moments of the dielectric tensor with spin terms. Further, we find that there is no spin effect on quantum plasma dispersion for both ordinary and transverse modes propagating either along or across the external field.