

Erratum: Microscopic theory of the low frequency Raman modes in germanium nanocrystals [Phys. Rev. B 71, 174305 (2005)]

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We have erroneously applied Eq. (6) in our article to the case of the $l=0$ spheroidal modes, in spite of the following Errata to earlier publications.^{1,2} For the $l=0$ cases, the correct equation for the calculation of the eigenmode frequencies should be:

$$4 \frac{\hbar^2 j_1(\xi)}{k^2 \xi} - j_0(\xi) = 0.$$

The corrected set of $\eta^{(S)}$ values are now shown in the following Fig. 1 which should replace the Fig. 1 in our original article. As a result of this correction, all the $l=0$ $\eta^{(S)}$ values in our original article that represent Raman inactive modes have disappeared, and only all the $l=0$ Raman active $\eta^{(S)}$ values remain. It also makes unnecessary our statement (7) in the list of our important findings in Section 3.3.

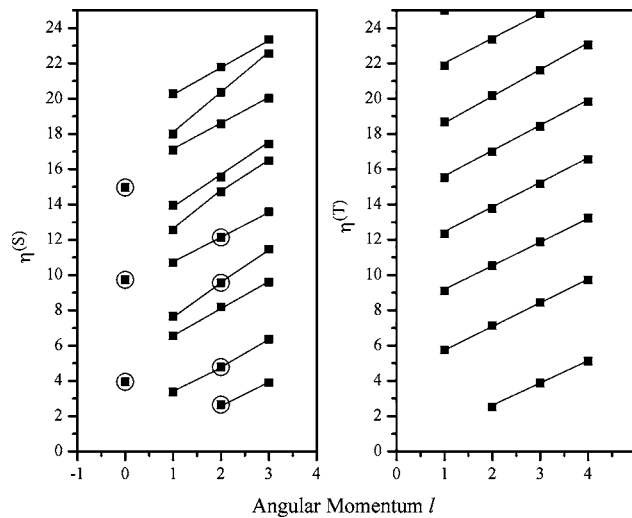


FIG. 1. Calculated values of η for both spheroidal (S) and torsional (T) Lamb modes as a function of the angular momentum number l . The solid lines join $l \neq 0$ modes with the same branch number n (a special case: join $l=1$, n branch to $l=2$, $n+1$ branch). η increases with n in the sequence of $n=0,1,2,\dots$. Note that the values of η for the spheroidal mode are specific for Ge with the choice of transverse and longitudinal sound velocities given in the text. The modes indicated with circles are found to be Raman active by projection onto our N = 7289 atom Ge NC as discussed in the text.

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