Erratum: Ultrafast dephasing of coherent optical phonons in atomically controlled GeTe/Sb2Te3 superlattices [Phys. Rev. B 79, 174112 (2009)]

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Erratum: Ultrafast dephasing of coherent optical phonons in atomically controlled $GeTe/Sb_2Te_3$ superlattices [Phys. Rev. B 79, 174112 (2009)]

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In the original paper there are typographical errors on page 2 (the FT spectra in the inset of Fig. 1 and the corresponding explanations): The frequency of the lower peak (the A_1 optical mode due to the tetrahedral $GeTe_4$ structure) presented at 3.66 THz in the as-grown (amorphous) alloy film should be 3.70 THz, and that presented at 3.66 THz in the annealed (crystalline) alloy film should be 3.62 THz, as shown in the revised Fig. 1.

We note also that the decay rate (defined by the inverse of the dephasing time) in Fig. 4(b) was obtained by a full width at half maximum (FWHM) for the FT spectra in Fig. 3, and in this case we need a factor of π for the FWHM in order to correspondingly match with the dephasing time in the time domains [1,2]. The correct values of the decay rate are presented in the revised Fig. 4.

These typographical errors and the correction for the decay rate do not affect the conclusion of the paper.

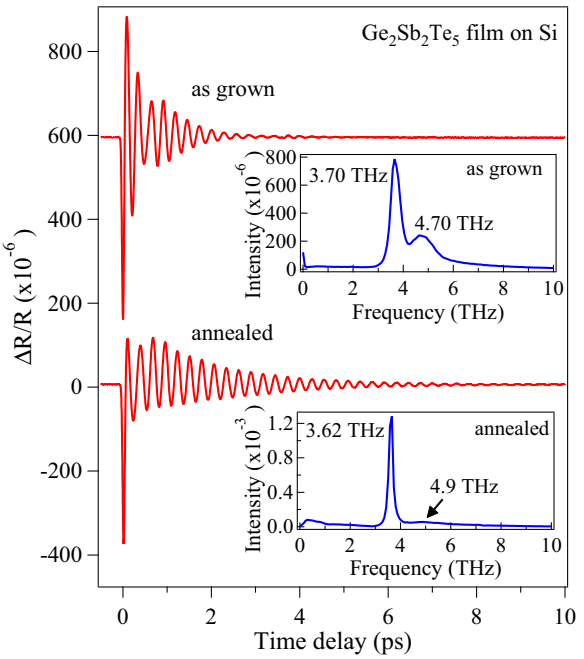

FIG. 1. (Color online) The TR signal observed in amorphous and crystalline $Ge_2Sb_2Te_5$ films at 295 K. The insets represent FT spectra obtained from the time-domain data. The frequency of the A_1 optical mode is located at 3.70 and 3.62 THz in as-grown (amorphous) and in annealed (crystalline) alloy films, respectively.

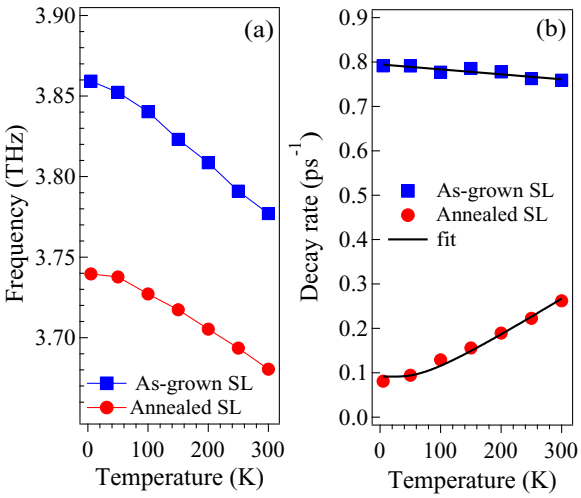

FIG. 4. (Color online) (a) The frequency and (b) the revised decay rate of the coherent A_1 mode, which is localized in the GeTe layer, in amorphous and crystalline $GeTe/Sb_2Te_3$ SLs, as a function of the lattice temperatures. In (b) the solid lines are fits to the data with a linear function for the as-grown SL and the anharmonic decay model [Eq. (1) in the original paper] for the annealed SL, giving rise to $\Gamma_0 \approx 0.09$ ps^{-1}.

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