

Abstract Submitted  
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**Effect of superconducting fluctuations on ultrasound in unconventional superconductor**<sup>1</sup> M. MAR'ENKO, C. BOURBONNAIS, A.-M.S. TREMBLAY, Université de Sherbrooke and RQMP — We study the renormalization of sound attenuation and sound velocity by fluctuation Cooper pairs in layered superconductors. We consider the influence of *s*- and *d*-wave symmetry of the fluctuating order parameter, on both longitudinal and transverse phonon modes. We show that both unconventional order parameter symmetry and transverse sound polarization suppress the AL and MT terms, while the DOS contribution is the least affected. The combination of these effects can change the sign of the overall fluctuation corrections above  $T_c$ . We also compare the results obtained using the Ginzburg-Landau formalism with a microscopic derivation of the fluctuation corrections in *s*- wave superconductors with a momentum-independent scalar electron-phonon vertex. These calculations are motivated by ongoing ultrasound measurements in organic superconductors.

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