Anomalous behavior of acoustic high-frequency excitations along isobars

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Using molecular simulation, we studied the spectra of longitudinal and transverse excitations of water along two isobars. We have shown that the frequency of longitudinal excitations demonstrates strong temperature dependence at low temperatures and comes to saturation at high ones. The low temperature regime is in qualitative agreement with the experimental results reported in the literature. The high temperature regime has not been studied experimentally up to now.

The work is supported by the Council of the President of the Russian Federation for State Support of Young Scientists and Leading Scientific Schools, project No. MD-6103.2021.1.2.