Reply to ''Comment on 'Fast dynamics of glass-forming glycerol' ''

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We disagree with the views exposed in the preceding Comment [Ngai and Roland, Phys. Rev. E **55**, 2069 (1997)]. [S1063-651X(97)03602-7]

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In the preceding Comment [1], Ngai and Roland write that since Wuttke, Petry, Coddens, and Fujara [2] ''did not remove the vibrational contribution from their intermediate scattering function, the relaxational component was not isolated. Hence, no rigorous comparison can be made of the glycerol data to the predictions of any theory concerned with the relaxational dynamics . . . ''. We believe [3] that the contrary is true: a comparison cannot be rigorous if experimental data have been subject to a complicated procedure involving Fourier transforms and rescaling by Debye-Waller and Bose-Einstein factors [4–6]. Such a data reduction is not even theory independent because it is based on the assumption that vibrations remain harmonic up to and above the glass transition. Instead of deconvoluting vibrations from the intermediate scattering function, one should rather include them in the theoretical expression and fit the original scattering law.

For the wave-number dependence of relaxation times, we refer to recent experimental results [7]. The reliability of time-temperature superposition has been discussed in detail for coherent scattering from perdeuterated glycerol [8].

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