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Mechanical Hole Burning Spectroscopy of Branched and Linear Polymers[1] XIANGFU SHI, GREGORY MCKENNA, Texas Tech University — We have developed a mechanical spectral hole burning (MSHB) scheme that is analogous to non-resonant dielectric spectral hole burning (DSHB). DSHB experiments have been performed close to the glass temperature and interpreted in terms of dynamic heterogeneity. Here we find that holes are burned far above the glass temperature and in the terminal regimes for a branched polymer melt and a polymer solution. The results suggest that MSHB is a potentially powerful tool with which to examine dynamics of complex fluids.

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