

Abstract Submitted  
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**Phonon spectra in Spin-Peierls transitions** FRANZ MICHEL, TU Graz, Austria, HANS GERD EVERTZ, TU Graz, Austria — We present phonon and spin spectra from precise Quantum Monte Carlo simulations of Spin-Peierls systems, in one and two dimensions with acoustical and with optical phonons. We introduce a new technique which allows the direct integration of phonons for a given spin configuration. Together with cluster simulations for spins and a mapping from SSE to continuous time this allows efficient simulations of large systems at finite temperature and close to  $T=0$ .

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