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Quantum Monte Carlo simulations of dynamical properties for gapped spin chains[1] ZHAOXIN XU, JUANA MORENO, Louisiana State University, MARK JARRELL, Louisiana State University and University of Cincinnati — We study the dynamical properties of spin-1 antiferromagnetic chains and spin-1/2 ferromagnetic-antiferromagnetic bond alternating chains. We calculate their dynamical structure factors using quantum Monte Carlo simulations combined with the Maximum Entropy Method. We focus on the finite temperature dynamical behavior and impurity effects on these gapped spin chains. We also discuss the connection between our results and recent neutron scattering experiments.

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