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Title:	Dynamical structure factor for classical spin models
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Abstract:	Dynamical spin structure factor, S(q, ω), is an experimentally measurable quan- tity, measured via inelastic Neutron scattering experiments. Inelastic Neutron scattering has been a very useful technique to study excitation spectrums in magnetic systems. In this project, we numerically calculate S(q, ω) for one-dimensional magnetic systems. We start with a one-dimensional ferromagnet and antiferromagnet case and then go on to explore spin-spirals. We use Monte Carlo annealing to obtain a stable spin configuration, and Landau-Lifshitz spin dynam- ics to evolve the state in time. We obtain S(q, ω) by taking the space-time Fourier transform of dynamical spin-spin correlation.
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