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**Excitations of quasi-one-dimensional field-induced spin density wave and nematic phases** OLEG STARYKH, Univ of Utah, LEON BALENTS, KITP, UCSB — We study the excitation spectrum and dynamical response functions for several quasi-one-dimensional spin systems in magnetic fields without dipolar spin order transverse to the field. This includes both nematic phases, which harbor “hidden” breaking of spin-rotation symmetry about the field direction and have been argued to occur in high fields in certain frustrated chain systems with competing ferromagnetic and antiferromagnetic interactions, and spin density wave states, in which spin-rotation symmetry is truly unbroken. Using bosonization, field theory, and exact results on the integrable sine-Gordon model, we establish the collective mode structure of these states, and show how they can be distinguished experimentally.

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