

Abstract Submitted
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Highly birefringent crystal for Raman transitions with phase modulators¹ NIEVES ARIAS, VAHIDE ABEDIYEH, SAEED HAMZELLOUI, YASSER JERONIMO-MORENO, EDUARDO GOMEZ, Physics Institute, Autonomous University of San Luis Potosi — We present a system to excite Raman transitions with minimum phase noise. The system uses a phase modulator to generate the phase locked beams required for the transition. We use a long calcite crystal to filter out one of the sidebands, avoiding the cancellation that appears at high detunings for phase modulation. The measured phase noise is limited by the quality of the microwave synthesizer. We use the calcite crystal a second time to produce a co-propagating Raman pair with perpendicular polarizations to drive velocity insensitive Raman transitions.

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