

Abstract Submitted
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Direct laser cooling of yttrium monoxide¹ MATTHEW HUMMON², MARK YEO, BENJAMIN STUHL, JILA, University of Colorado, Boulder, YONG XIA, East China Normal University, JUN YE, JILA, University of Colorado, Boulder — Using a laser system consisting of only three lasers, one for the main cooling transition and two for vibrational repumping, we create a quasi-closed optical cycling transition for the molecule yttrium monoxide (YO) capable of scattering more than one thousand photons. Using this laser system in conjunction with a cryogenic buffer-gas-cooled source we characterize the photon scattering rate by observation of deflection of the YO molecular beam. Additionally, we observe transverse Doppler laser cooling of the YO molecular beam.

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