Abstract Submitted
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Measurement of the ratio of the $6P_j \rightarrow 7S_{1/2}$ matrix elements in atomic cesium[1] AMY DAMITZ, GEORGE TOH, NATHAN GLOTZBACH, JONAH QUIRK, IAN C. STEVENSON, J. CHOI, D.S. ELLIOTT, Purdue Univ — We report progress on a measurement of the ratio of transition matrix elements of the $6P_j \rightarrow 7S_{1/2}$ transition in atomic cesium. We use a 1.47 um diode laser and a Ti: Sapphire laser at 850 nm to drive the two photon $6S \rightarrow 7S$ transition. We measure the ratio of the polarization-dependent intensities of the transition by changing the polarization of the diode laser. Since the 6S→6P matrix elements are well known, the ratio of the $6P_j \rightarrow 7S_{1/2}$ matrix elements can be precisely determined. Combined with our recent measurement of the cesium 7S lifetime, a new measurement of this ratio allows us to determine the $6P_j \rightarrow 7S_{1/2}$ matrix elements.

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