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We investigate the strength and linewidth of a transition between two RF-Dressed ground states for Rubidium-87 in a non-uniform magnetic field. The linewidth of the selected transition is broadened due to a mismatch of trapping potentials. This arises from a difference in Land´e g-factor magnitude between the two hyperfine ground states. A scheme is presented wherein the magnetic field dependence of the transition frequency between two RF-dressed Rubidium-87 states is reduced by the introduction of a microwave dressing field, increasing coherence times and reducing transition linewidth [1]. Preliminary measurements are presented with the outlook of incorporating this method into the operation of a chip-based atom interferometer [2].

Poster Abstract

Session Classification: Poster Session

Track Classification: Experimental - Tabletop experiments