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Fringes and Light Shift in CPT-Ramsey Spectroscopy

Up to now, the mechanism and light shift in CPT-Ramsey have not yet been clarified theoretically. Using the time evolution of the Bloch vector after the steady-state condition is achieved at the first excitation pulse, we derived an expression of CPT-Ramsey fringes and formulized the light shift in CPT-Ramsey connecting to the ordinal light shift due to Rabi-pulling, which are suitable to explain the experimental results. We discuss a method of higher reduction of the light shift in CPT-Ramsey.

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