

Comb-locked cavity ring-down spectroscopy for molecular transition frequency measurements below 10^{-12} relative uncertainty

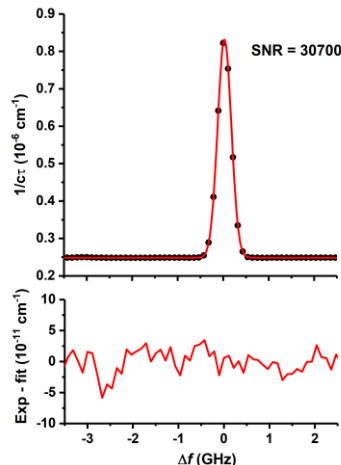
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Probe laser phase locked to frequency comb, used for measurement and cavity stabilization

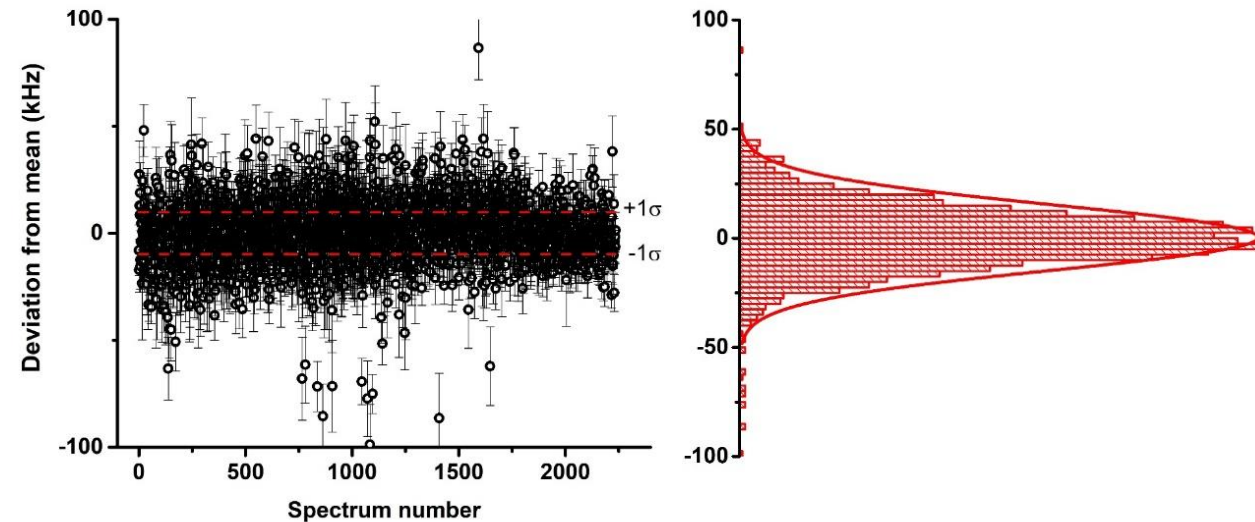
Linear-regime (non-saturated) measurements

High sensitivity, excellent averaging behavior

Wide application for ultra-high accuracy transition frequency determinations



$^{12}\text{CO}_2$ transition frequency measurements



Combined uncertainty

189 Hz

9.7×10^{-13} relative uncertainty