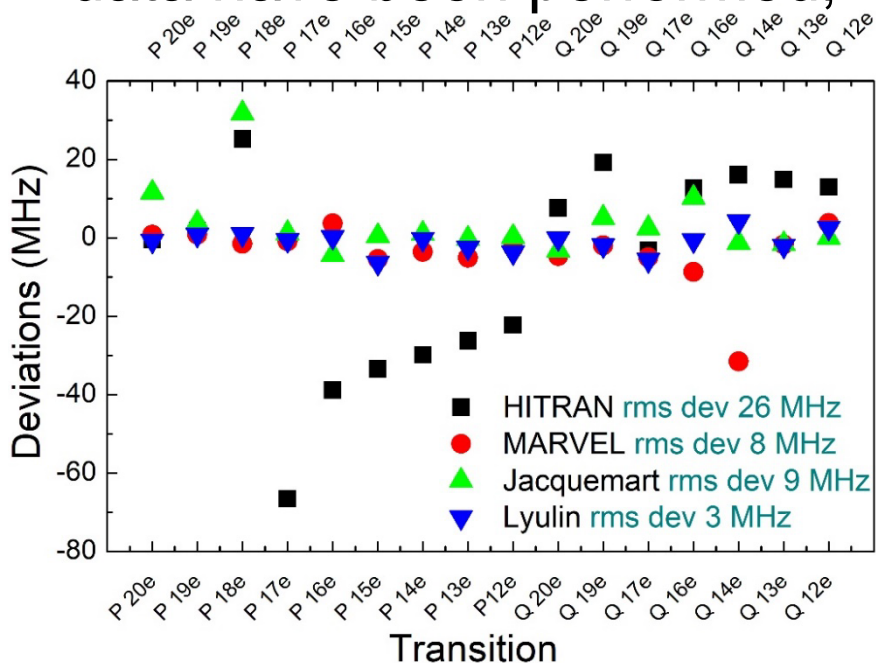


P5803: FREQUENCY COMB ASSISTED, CAVITY RING-DOWN, LAMB-DIP SPECTROSCOPY OF ACETYLENE AT 1.39 μm .

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- This talk reports on the measurements of C_2H_2 transition frequencies by means of **COMB-referenced Lamb-dip Frequency Stabilized-CRDS**;
- An overall uncertainty ranging from **1.3** and **5×10^{-11}** has been achieved targeting several *ortho* and *para* transitions belonging to the $2\nu_3 + \nu_5^1$ band;
- A **comparison** with available databases and past literature data have been performed;



- **Rotational energy separations** of the excited vibrational state for J-values from 11 to 20 have been determined;
- Our work provides a stringent test of the **MARVEL** analysis recently performed on acetylene.

