Measurement of a very accurate transition frequency (1 ppb) of an anion by action spectroscopy

- Laboratory Astrophysics [1]
- Prof. Schlemmer [2]


An IR-THz double-resonance light induced reaction (LIR) depletion technique was employed to record the fundamental rotational transition \( J = 1 - 0 \) of OH– near 1.123 THz in a 4 K 22-pole ion trapping machine with an accuracy of 1.4 kHz or about one part in a billion. An improvement in accuracy of more than two orders of magnitude was achieved with respect to the previous laboratory measurement.

The article was highlighted as editors' suggestion in PRL.

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[1] https://www.astro.uni-koeln.de/taxonomy/term/64