arXiv.org > physics > arXiv:1107.2950

Search or Article-id

(Help | Advan

All papers

Frequency Comb Velocity-Modulation Spectroscopy

Laura C. Sinclair, Kevin C. Cossel, Tyler Coffey, Jun Ye, Eric A. Cornell

(Submitted on 14 Jul 2011)

Physics > Atomic Physics

We have demonstrated a new technique that provides massively parallel comb spectroscopy sensitive specifically to ions through the combination of cavity-enhanced direct frequency comb spectroscopy with velocity modulation spectroscopy. Using this novel system, we have measured electronic transitions of HfF+ and achieved a fractional absorption sensitivity of 3 x 10-7 recorded over 1500 simultaneous channels spanning 150 cm-1 around 800 nm with an absolute frequency accuracy of 30 MHz (0.001 cm-1). A fully sampled spectrum consisting of interleaved measurements is acquired in 30 minutes.

Subjects: **Atomic Physics (physics.atom-ph)**; Chemical Physics (physics.chem-ph);

Optics (physics.optics)

Journal reference: Phys. Rev. Lett. 107, 093002 (2011) Cite as: arXiv:1107.2950 [physics.atom-ph]

(or arXiv:1107.2950v1 [physics.atom-ph] for this version)

Submission history

From: Laura Sinclair [view email]

[v1] Thu, 14 Jul 2011 21:03:30 GMT (710kb,D)

Which authors of this paper are endorsers?

Link back to: arXiv, form interface, contact.

Download:

- PDF
- Other formats

Current browse cont physics.atom-ph

< prev | next > new | recent | 1107

Change to browse b

physics physics.chem-ph physics.optics

References & Citation

NASA ADS

Bookmark(what is this?)







