NCAR

Atmospheric Chemistry Observations & Modeling Laboratory

SEMINAR

Have 100,000 lasers, will travel – Frequency comb spectroscopy of atmospheric trace gases

Greg Rieker

University of Colorado - Boulder

Dual frequency comb spectroscopy is a promising technique for kilometer-scale open-path monitoring of multiple trace gases. The technique offers low systematic uncertainty, high stability, and requires no instrument-specific calibration. I'll talk about the basics of frequency combs and our recent work to mobilize and apply these tools for atmospheric trace gas monitoring. In particular, I'll discuss how our collaborative team from CU and NIST is combining this technology with inverse methods to locate and size incredibly small methane leaks across large regions. We recently demonstrated that we could detect and size a leak of 6 scfh (~1/4 a person's average breathing rate) from over 500 meters.

Monday, April 10, 2017, 3:30 p.m.

Refreshments 3:15 p.m.

NCAR Foothills Laboratory

3450 Mitchell Lane, Boulder, CO 80301

FL2-1022, Large Auditorium

Live webcast: http://ucarconnect.ucar.edu/live

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