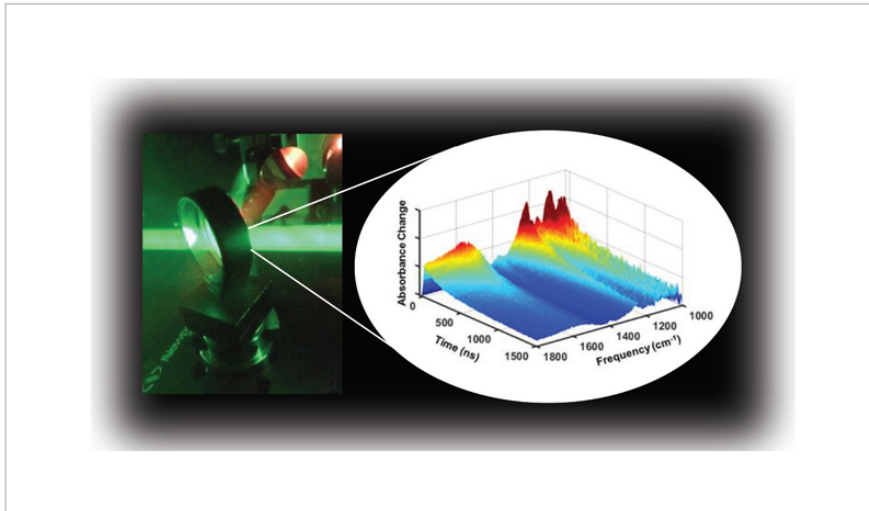


Ultra-High Sensitivity Low Cost Transient Spectrometer

ID# 2018-4720



PennState



Novel Transient Absorption Spectrometer

Technology Summary

A novel transient absorption (TA) spectrometer with dramatically enhanced sensitivity, versatility, and ease of use. Current TA systems are too expensive to build and operate (\$1M), take up an entire room, and require specialized staff. Our novel TA system outperforms the known art, with a 100x increase in sensitivity over current methods. Advances in the instrument will permit its sale at a price 5x lower than conventional instruments, creating entirely new markets. The novel TA instrument can be manufactured and sold as an all-in-one, or “black box”, with a much smaller 3’x4’ workspace, allowing for easy integration into any lab and effective operation by even unskilled users (student trainees).

Application & Market Utility

The performance advances demonstrated by the novel TA spectrometer coupled with a lower price point, smaller footprint and ease of use will create new market opportunities, enabling a far larger number of academic and industrial researchers to use TA spectroscopy to characterize chemical processes in catalytic and biochemical reactions that are central to research in a range of disciplines.

Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL

4-7

Seeking

Investment | Licensing | Research

Keywords

- Transient absorption Spectroscopy
- Visible
- Mid-infrared

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