

# PHAZOR – ALL OPTICAL DELAY STAGE FOR CW THZ SPECTROSCOPY

## AT A GLANCE

- All optical THz phase control for cw THz systems



## Features

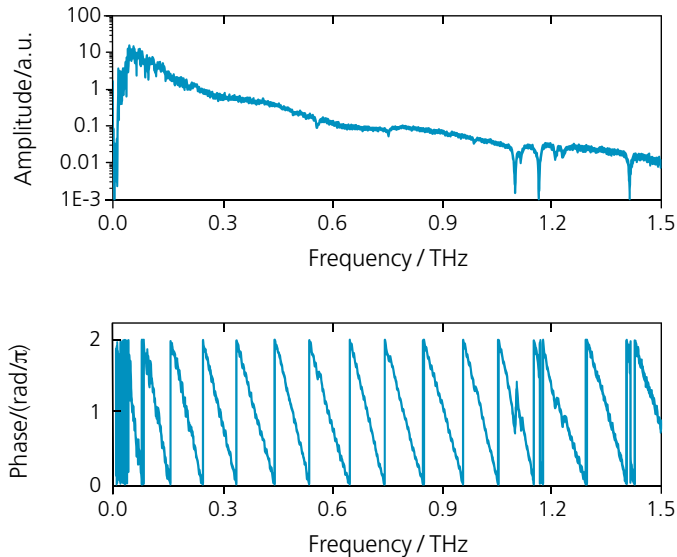
- Plug and play design
- PM fiber
- No moving parts
- Suitable for any laser type

## Applications

- High-resolution terahertz spectroscopy
- Precise high-speed terahertz measurements

## Technical Background

Photomixing based cw THz systems are a reliable tool for precise spectroscopy in the frequency range from 100 GHz up to 2 THz. Up to now, bulky mechanical delay lines are required for coherent detection. This severely limits the measurement time to several minutes for a whole spectrum. In our new Phazor delay line we eliminate all moving components and free beam optics by using a fiber optics only standard Telecom phase modulator. Now we can acquire a full spectrum within just a few seconds. The Phazor delay line is a milestone for the successful transfer of THz technologies from academic facilities to industrial applications.



*Coherently recorded frequency spectrum  
Measurement time – 20s for 15.000 frequency points  
Frequency resolution – 100 MHz*

## Specifications

■ Optical wavelength	1.5 $\mu\text{m}$
■ Insertion loss	4 dB
■ Coherent sampling rate	2 kHz
■ Size	20 $\times$ 10 $\times$ 3 $\text{cm}^3$
■ Weight	0.5 kg

## The Fraunhofer HHI

One of the prime research and development foci of the Fraunhofer Heinrich Hertz Institute lies in photonic networks, components and systems and their application in fields such as digital media.

## Contact

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