NLIR | Mid-Infrared Sensors

UPCONVERSION AS A LAB TOOL

NLIR | Mid-Infrared Sensors

Don't miss out on the opportunity to explore the infrared potential!

Upgrade your existing VIS-NIR equipment to access the infrared range

Contact us today to learn more about our cutting-edge technology and easy-to-use optical interfaces

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NLIR UPCONVERTER - VERSATILE AND EASY

The NLIR upconversion units seamlessly integrate the nonlinear optical principle of sum-frequency generation with a user-friendly, fiber-coupled interface. In practical terms, the infrared light in the 1.9 - 5.3 µm range from the input fiber is directly converted to NIR-VIS light in the 682 - 886 nm range. This can be done for a narrow wavelength range to achieve maximum efficiency or a broad wavelength range for increased versatility.

At the core of the upconversion unit is NLIR's proprietary low-noise mixing module, optimized for stable operation and unparalleled efficiency. Housed in a compact, standalone package for effortless integration, our upconversion units require no expertise in nonlinear optics or lasers.

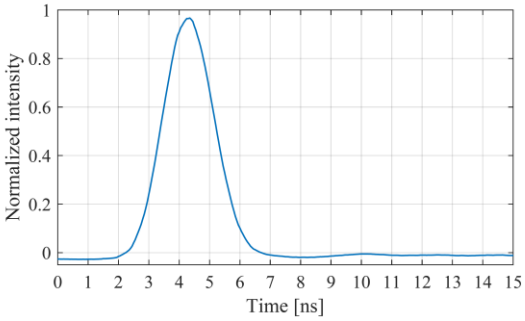
APPLICATION EXAMPLES

A prime example showcasing the upconverter's versatility is the characterization of a mid-IR supercontinuum source. In this scenario, we are interested in both the spectrum and the temporal pulse shape.

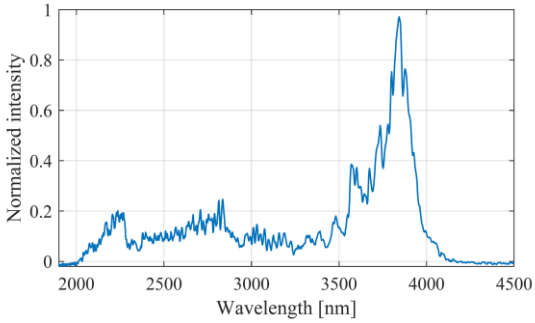
To conduct these measurements, we paired the upconverter with a NIR detector featuring GHz response and an off-the-shelf spectrometer.

Should direct pulse-to-pulse monitoring be required, a kHz-rate spectrometer can be readily utilized.

An example of the upconverter together with two standard VIS-NIR sensors, readily upgraded to the mid-IR range.



Temporal shape of the mid-IR supercontinuum ns-pulse



Spectral shape of the mid-IR supercontinuum, measured in a single frame.

HAVE YOUR OWN IDEAS?

Our expert team is ready to assist you in actualizing your ideas by tailoring the upconversion units to your specific requirements. Whether it's narrowband upconversion, tunable wavelength response, specialized fibers, custom response functions, or ultra-low noise operation, we're committed to do our very best to service your needs.

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