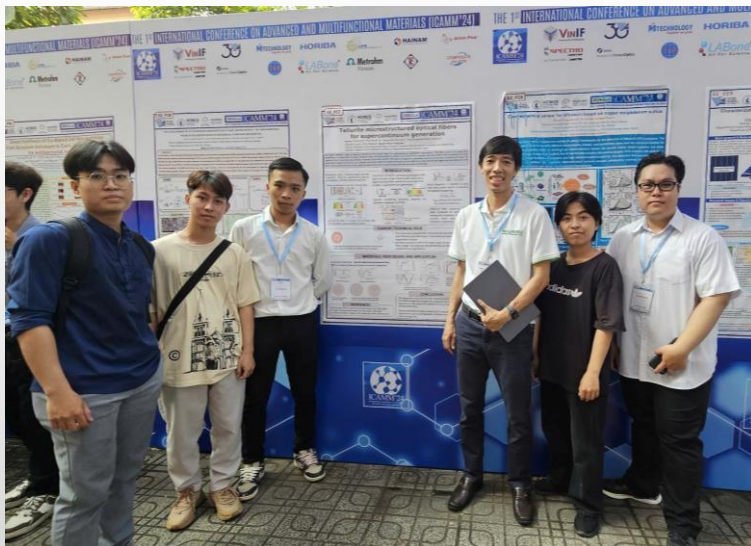


MID-INFRARED LIGHT GENERATION USING NONLINEAR OPTICAL PHENOMENA

ABSTRACT

We explore nonlinear fiber optics for mid-infrared applications, specifically mid-infrared supercontinuum generation and fiber optical parametric amplification. These nonlinear processes are crucial for versatile light sources and signal amplification in fields like telecommunications and remote sensing, offering broad spectral coverage and tunability.

GROUP MEMBERS



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Hòa



Th.S Vũ Đức Lân



HVCH. Phan Kiều Thư



HVCH. Nguyễn Quế Anh



OUR WORK

- Design and fabricate optical fibers
- Analyze the fibers performance in SCG and FWM

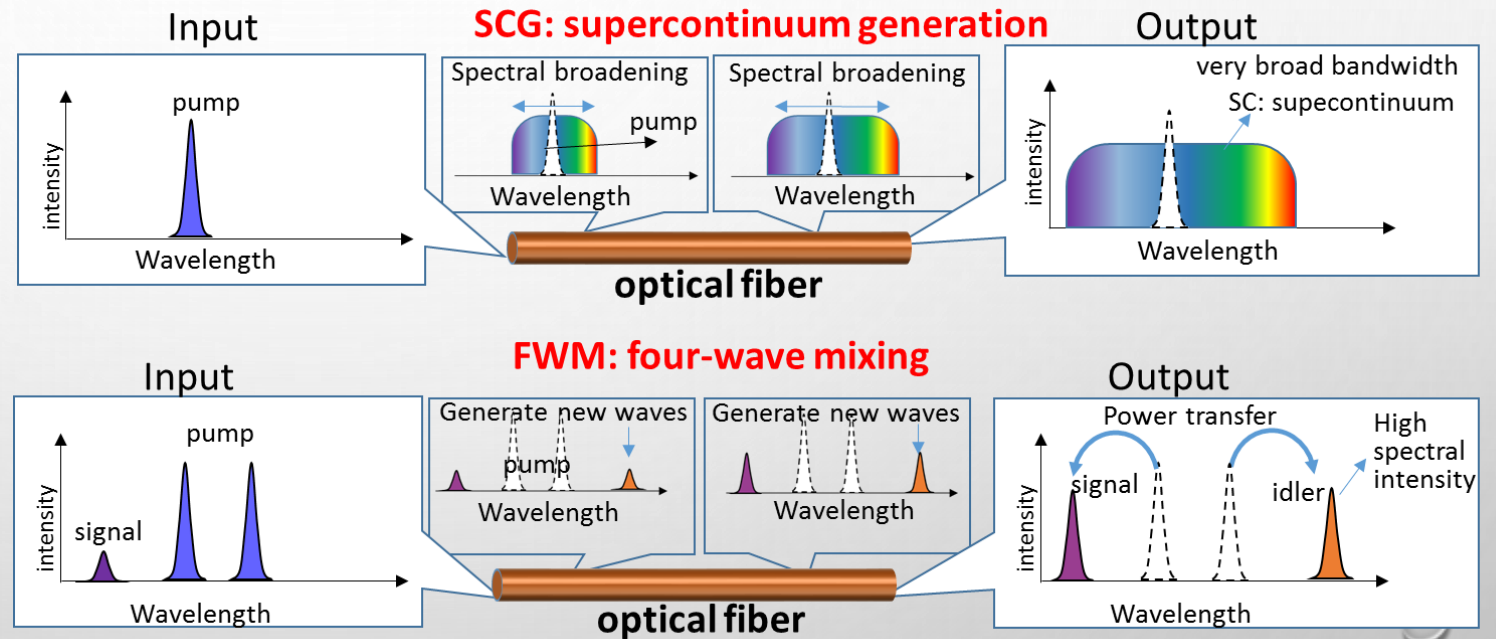
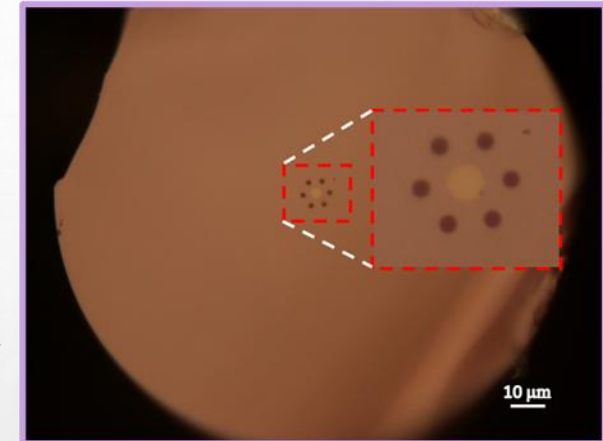
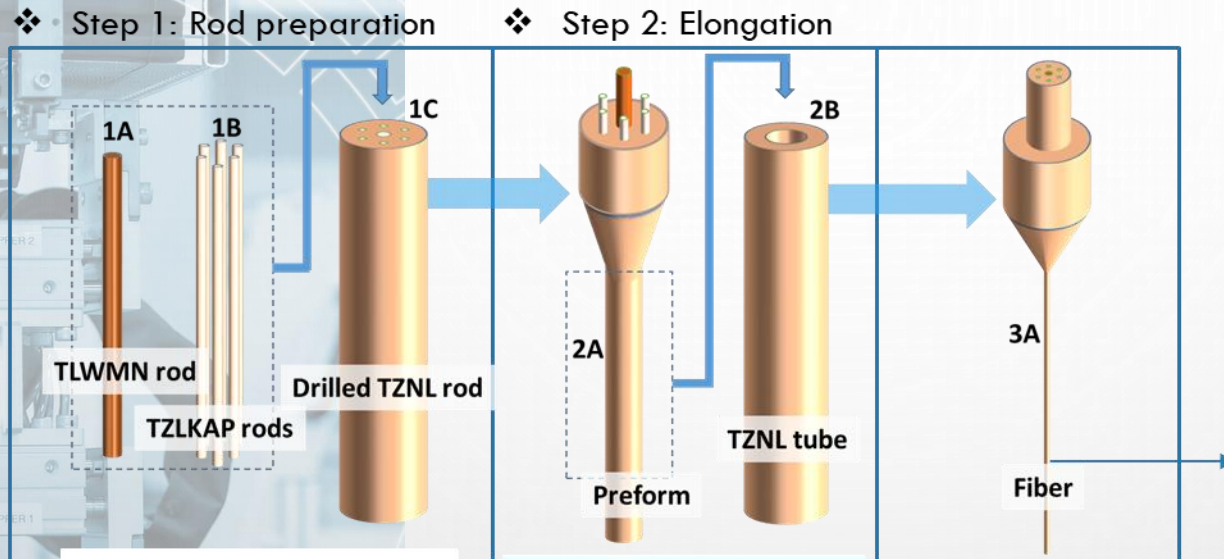
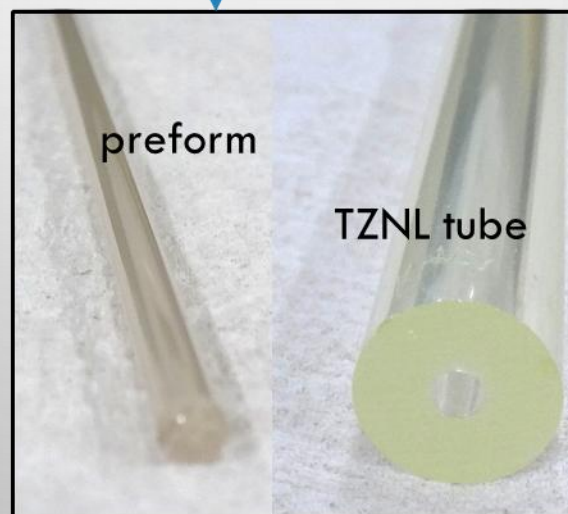
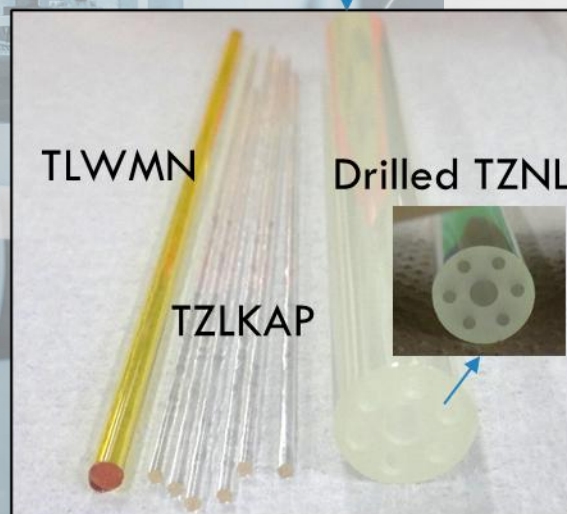


Illustration of 2 nonlinear phenomena for generation of new light wave

OUR WORK

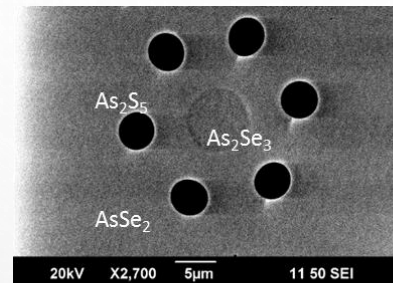


Cross-section of fabricated tellurite ASHMOF



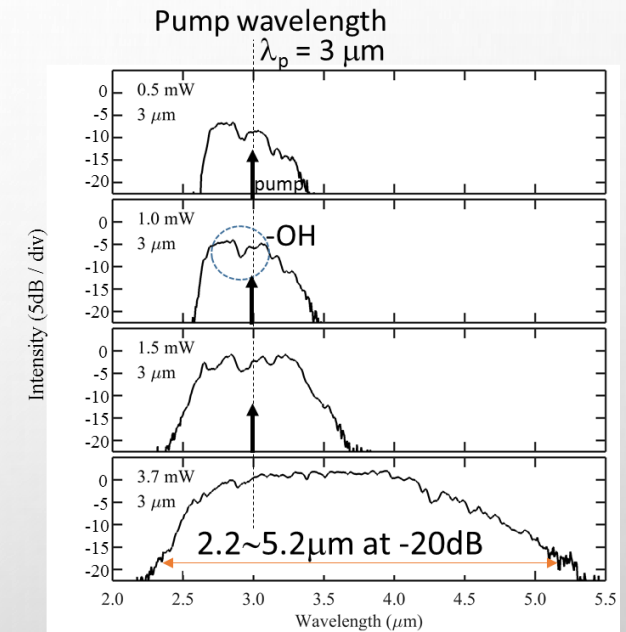
To the best of our knowledge, tellurite ASHMOF was successfully fabricated for the first time.

OUR WORK



Cross-section of
chalcogenide ASHMOF
(Scanning electron microscope image)

The designed structure of the fiber was successfully fabricated. It consists of a core surrounded by 6 rods.



SC spectra with different pump powers. The output pulse spectra are extremely broad.



CÁC CÔNG TRÌNH & KẾT QUẢ ĐÃ VÀ ĐANG THỰC HIỆN TỪ HƯỚNG NGHIÊN CỨU

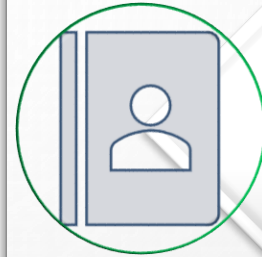
Đề tài, dự án các cấp

- KHTN T2023
- ĐHQG C2023-18
- NAFOSTED 103.03 – 2023.69

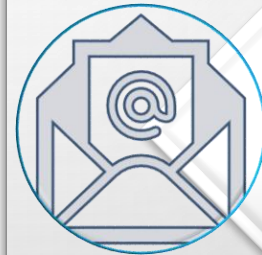
Công bố khoa học (trong 3 năm gần nhất)

- Thu Phan Kieu, Lan Duc Vu, Hoa Phuoc Trung Nguyen, Ohishi Yasutake, “Coherent mid-infrared supercontinuum generation in tellurite all-solid microstructured optical fibers with anomalous and normal dispersion property”, *Results in Optics* 13(100576) (2023)
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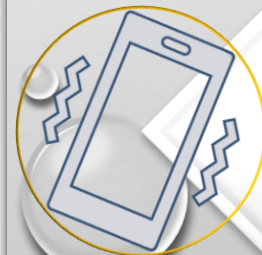
THÔNG TIN LIÊN HỆ



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