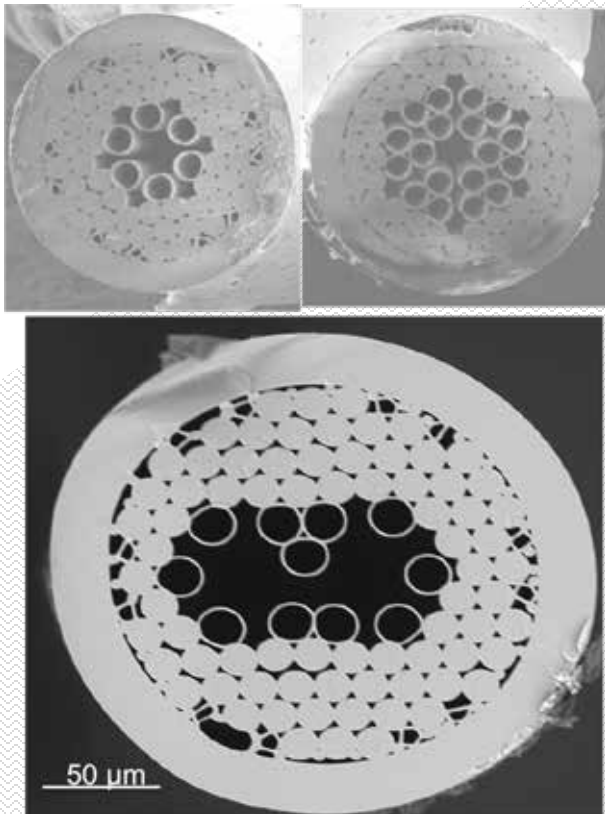


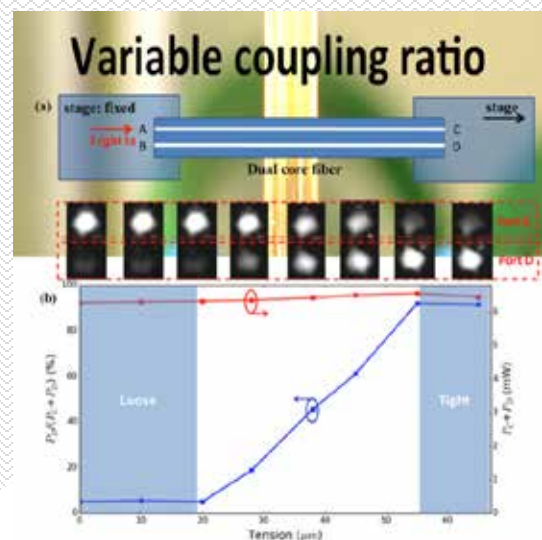
Technology Overview

- § A new type of fibre coupler which is not bounded by material limitations
- § It can be used in mid-IR or UV regions where the conventional fibre couplers cannot cover
- § The air core allows delivery of ultrafast lasers and power splitting
- § The air core fibre coupler can be used to build an all-fibre ultrafast mid-IR fibre laser cavity



Technology Features

- § Two air cores in the coupler behave as an individual anti-resonant fibre core
- § Air gap enabled optical power coupling
- § Variable coupling strength by mechanical tension
- § Air cores that can be customized for desired operation spectral windows
- § No optical limitation imposed by material properties
- § Design is compatible to glass or polymer materials



Potential Applications

- § Air core fibre based interferometers
- § Air core fibre based resonators
- § Ultrafast laser power splitter/delivery
- § An optical multiplexing device in the emerging air core fiber based network

Benefits

- § First anti-resonant fibre coupler
- § All-fibre mid-IR ultrafast fibre lasers
- § Variety of specialty fibres for high power laser applications

