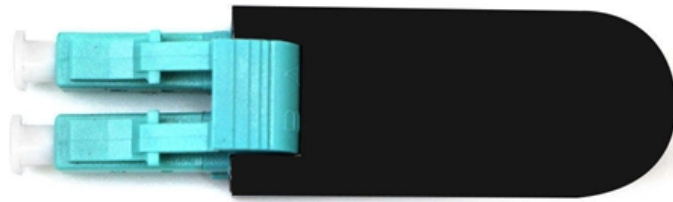


Dispersion of Gas-Filled Hollow Fiber





Dispersion of Gas-Filled Hollow Fiber

Maximizing supercontinuum bandwidths in gas-filled

In this study, we use machine learning to investigate the optimal design of supercontinuum-generating hollow-core antiresonant fibers (HC-ARFs)

Hollow-Core Fiber Technology: The Rising of "Gas

Since their inception, about 20 years ago, hollow-core photonic crystal fiber and its gas-filled form are now establishing themselves both as a platform in advancing



Impact of Mode-Area Dispersion on Nonlinear Pulse

We numerically investigate the effect of mode-area dispersion in a tubular-type anti-resonant hollow-core fiber by using a modified generalized nonlinear Schrödinger

High Conversion Efficiency in Multi-mode Gas-filled

High Conversion Efficiency in Multi-mode Gas-filled Hollow -core Fiber Md. Selim Habib, Senior Member, IEEE, Member, OSA, Christos Markos,

Soliton dynamics in gas-filled hollow-core photonic crystal fibers

Gas-filled hollow-core photonic crystal fibers offer unprecedented opportunities to observe novel nonlinear phenomena. The various properties of gases that can be used to fill these



Synthesizing gas-filled anti-resonant hollow-core fiber

Here, we introduce a concept that is based on the combination of an appropriate design of near-infrared fiber laser pump and cascaded configuration

Dispersion-tuning of nonlinear optical pulse dynamics in gas-filled

Abstract We experimentally investigate the nonlinear optical pulse dynamics of ultrashort laser pulses propagating in gas-filled hollow capillary fibers in different dispersion regimes, which are achieved by

in Gas-Filled Anti-Resonant Hollow-Core Fibers



Broadband Dispersive

We studied the underlying mechanism of broadband dispersive-wave emission within a resonance band of gas-filled anti-resonant hollow-core fiber. Both theoretical and experimental results unveiled that

Improved Visible-Guiding Anti-Resonant Hollow-Core Fiber for Gas

Gas-filled hollow-core optical fibers (HCFs) provide an enhanced gas-light interaction length which can be exploited for high-sensitivity laser-based trace gas detection. Here, we focus on HCF-based

Maximizing supercontinuum bandwidths in gas-filled

Artificial neural networks (ANNs) are trained to replace the numerical solvers, accelerate



the simulation of fibers, and provide a more rapid fiber design

Dispersion tuning of nonlinear optical pulse dynamics in

We experimentally investigate the nonlinear optical pulse dynamics of ultrashort laser pulses propagating in gas-filled hollow capillary fibers in different

Impact of Mode-Area Dispersion on Nonlinear Pulse Propagation in

We numerically investigate the effect of mode-area dispersion in a tubular-type anti-resonant hollow-core fiber by using a modified generalized nonlinear Schrödinger equation that takes into account the



Mid-infrared dispersive wave generation in gas-filled photonic crystal

Dispersive wave emission in gas-filled hollow-core photonic crystal fibres has been possible in the visible and ultraviolet via the optical Kerr effect.

Study of gas dynamics in hollow-core photonic crystal fibers

The unique design of hollow-core photonic crystal fibers (HC-PCFs) has attracted a lot of researchers' attention. Their hollow-core structure with low transmission loss allow strong light-gas

Recent Progress in Low-Loss Hollow-Core Anti-Resonant Fibers and



Large-core silica-based AR fibers are considered for application in telecommunication, optofluidic systems, gas sensing, and ultrashort pulses delivery .

Spectral Broadening and Pulse Compression in Molecular Gas-Filled

Gas-filled hollow-core fibers have over the last three decades emerged as a key technology for ultrafast nonlinear optics and strong-field physics. Today, noble gas-filled capillary and microstructured fibers

Intense optical pulse compression with gas-filled hollow-core fibers

We numerically study the propagation dynamics and compression of ultrashort laser pulses in a hollow-core fiber (HCF) filled with noble gases at different carrier wavelengths from 1.8



Impact of Mode-Area Dispersion on Nonlinear Pulse

We numerically investigate the effect of mode-area dispersion in a tubular-type anti-resonant hollow-core fiber by using a modified generalized

Molecular dispersion spectroscopy in a CO₂-filled all-fiber gas cells

Abstract CO₂ sensing using self-fabricated all-fiber gas cells based on a hollow-core photonic crystal fiber and chirped laser dispersion spectroscopy (CLaDS) is presented.

Divided-pulse compression with gas-filled hollow-core



We study theoretically a pulse compression method with gas-filled hollow-core fiber (HCF) based on pulse division. The input pulse is first divided temporally into a

Hollow-Core Fiber Technology: The Rising of "Gas

Here, we give a historical account of the major seminal works, we review the physics principles underlying the different optical guidance mechanisms that have

Designing and exploiting the properties of gas filled hollow core

Hollow core optical fibers can efficiently guide light in air, within an extended wavelength range. Their adoption as a passive means for optical transmission is of particular interest for short



Dispersion tuning of nonlinear optical pulse dynamics in

Gas-filled hollow capillary fibers can be used for continuum generation and pulse compression. Here, the authors change the gas pressure inside hollow

Mid-infrared dispersive wave generation in gas-filled photonic crystal

Gas-filled hollow-core photonic crystal fibre is being used to generate ever wider supercontinuum spectra, in particular via dispersive wave emission in the deep and vacuum

Dispersion-tuning of nonlinear optical pulse dynamics in gas-filled



We experimentally investigate the nonlinear optical pulse dynamics of ultrashort laser pulses propagating in gas-filled hollow capillary fibers in different dispersion regimes, which are achieved by

Hollow-core photonic crystal fibres for gas-based

Hollow-core photonic crystal fibres are attractive because they exhibit pressure-adjustable normal or anomalous dispersion, low-loss guidance, very low

Optical solitons in hollow-core fibres

One of the beautiful features of gas-filled hollow fibres of all kinds is that the dispersion landscape can be tuned simply by varying the filling gas pressure and species.



Intense optical pulse compression with gas-filled hollow-core fibers

We numerically study the propagation dynamics and compression of ultrashort laser pulses in a hollow-core fiber (HCF) filled with noble gases at diffe

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