Material Loss of Anti-Resonant Hollow-Core Fiber

In this paper we present a new hollow-core anti-resonant fiber (HC-ARF). The structural asymmetry is constructed by the introduction of elliptical quartz tubes in the core region, which can ...

This work presents an ultra-low loss hollow-core anti-resonant fiber design featuring a triple-nested cladding architecture with elliptical nested elements and six auxiliary compensation tubes located ...

This paper proposes a low-loss, high single-polarization hollow-core anti-resonant fiber (HC-ARF) with double-layer nested tubes and two resonant tubes. After structural parameter ...

In this paper, a multimode hollow-core anti-resonant fiber design with low CL and low bending loss is proposed, which can be applied to multimode or few-mode high-power laser transmission.

In this work, we present a novel design for hollow-core anti-resonant fibers, specifically tailored to maximize light confinement and significantly ...

We revisit the formula of power attenuation coefficient for the index-guiding optical fiber described by Snyder and Love in the 1980s and derive the modal overlap factor that governs the material loss of ...

The effects of the refractive index, material absorption, and cladding structure on various loss mechanisms were systematically investigated. Our results provide a comprehensive perspective ...

In this paper, an ultra-low-loss hollow-core anti-resonant fiber (HC-ARF) operating in the near-infrared band is proposed. The ARF is based on six nested circular tubes made of silica. Then a straight rod ...

This study innovatively presents a hollow-core anti-resonant fiber integrating double-tube nesting and a single-layer anti-resonant wall. Featuring an exclusive two-layer cladding configuration ...

Anti-resonant hollow core fibres guide light through a gas or vacuum core. In this way the guided light is largely decoupled from the solid fibre material, greatly reducing material contributions to fibre non ...

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