Ring array core fiber

Overview

We design a graded-index ring-core fiber with a GeO 2 -doped silica ring core and SiO 2 cladding. This fiber structure can inhibit the effect of spin-orbit coupling to mitigate the power transfer among different modes and eventually enhance the orbital angular momentum (OAM) mode. To address the issues of limited orbital angular momentum (OAM) mode count, poor transmission quality, and complex cladding structures in ring-core photonic crystal fibers, a novel OAM-supporting ring-core anti-resonant photonic crystal fiber is designed. By. tally demonstrated. Compared to few-mode fiber, the Rayleigh backscattering of high-order orbital momentum mode supported by ring-core fiber bea 1, 2, 3 in an RCF.

Ring array core fiber

This study proposes a graded-index coupled ring-core fiber designed to support high-purity OAM modes and generate large negative dispersion. At 1311.76 nm, the OAM 2,1 mode ...

This fiber features a high-index-doped ring-core surrounded by a three-layer anti-resonant nested tube cladding. Numerical simulations based on the finite element method indicate ...

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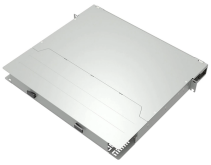
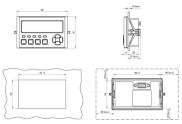


In this article, a highly dispersive germanium-doped ring-core fiber with dual selectable operating windows for OAM mode is proposed. The proposed fiber consists of three concentric high ...

The fiber consists of 19 trench-assisted ring cores arranged in a compact cladding region, with a large core pitch to reduce inter-core crosstalk. We conduct thorough optical and communication ...

tally demonstrated. Compared to few-mode fiber, the Rayleigh backscattering of high-order orbital momentum mode supported by ring-core fiber bea.

We propose and fabricate a novel ring-core photonic crystal fiber made of a circular ring core surrounded by a cladding constituted of air holes organized in a first circular ring surrounded by ...



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A novel fiber incorporating central hollow, porous isolated layers, and concentric ring cores is proposed for the simultaneous propagation of multi-terahertz (THz) orbital angular ...

In this paper, we review the principles of OAM mode transmission in ring-core fibers, the design considerations for such fibers, and their applications in optical communication systems.

In this article, a highly dispersive germanium-doped ring-core fiber with dual selectable operating windows for OAM mode is proposed. The proposed fiber consists of three concentric...

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