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Title: Terahertz wave transmitting hollow optical fiber has metal wire with ring that is set at outer periphery of hollow core section

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Abstract: NOVELTY - The optical fiber has a cladding section (3) that is set outside the hollow core section (1). The ring of metal wires (2) is set at the outer periphery of the hollow core section. The metal wire is embedded in cladding inner wall. The hollow core section is filled with air. The cladding section is made of the thermoplastic organic polymer such as polyfluortetraethylene, polyethylene, polycarbonate and polystyrene.

USE - Terahertz wave transmitting hollow optical fiber.

ADVANTAGE - The terahertz wave transmission effect can be realized. The metal wires are included in the cladding so as to reduce the material loss and to realize the low loss transmission for terahertz wave. The preset rod pulling melting preparation process is used so that the reduction of production cost can be achieved.

DESCRIPTION OF DRAWING(S) - The drawing shows a top view of the terahertz wave transmitting hollow optical fiber.

Hollow core section (1)

Metal wire (2)

Cladding section (3)

Derwent Class Code(s): A89 (Photographic, laboratory equipment, optical); P81 (Optics); V07 (Fibre-optics and Light Control)

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