

AZIMUTHALLY MARKED HOLLOW-CORE OPTICAL FIBER AND METHOD FOR END-FACE DETECTION OF HOLLOW-CORE OPTICAL FIBER

Abstract

An azimuthally marked hollow-core optical fiber and a method for end-face detection of the hollow-core optical fiber are disclosed. The optical fiber includes: a cladding hollow-core sleeve, and a plurality of circumferentially uniformly disposed anti-resonant microstructure units arranged on and attached to an inner wall of the cladding hollow-core sleeve, and a hollow area surrounded by the anti-resonant microstructure units is an optical fiber core; and there is a difference between an azimuthal angle of at least one anti-resonant microstructure unit and an azimuthal angle of at least one other anti-resonant microstructure unit. According to the azimuthally marked hollow-core optical fiber and the method for end-face detection of the hollow-core optical fiber, by using an azimuthal mark, under the premise of not increasing the complexity of optical fiber preparation with negligible impact on transmission performance of the optical fiber, anti-resonant microstructure units in the hollow-core optical fiber can be distinguished quickly, which facilitates on-line control of the geometric uniformity of the anti-resonant microstructure units.

(Fig. 1)