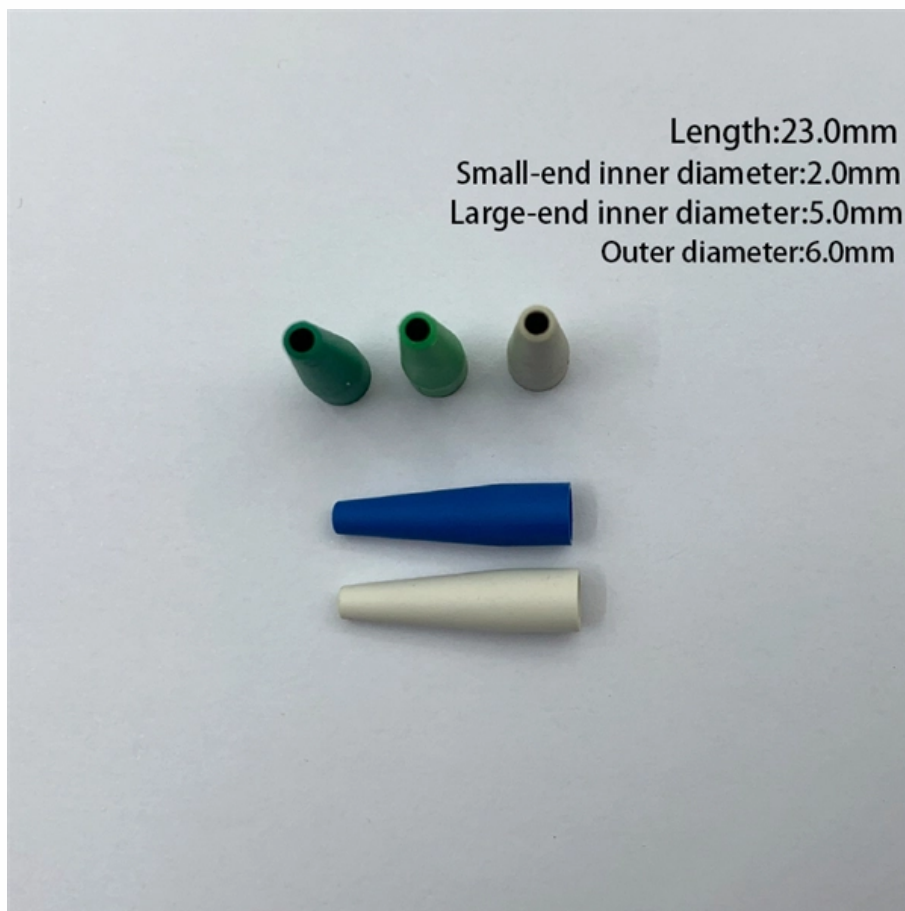


Micro-fiber resonator sensing





Overview

A kind of all-fiber magnetic field sensing structure is proposed and demonstrated here. The sensor uses a flat glass with a square hole in the middle as the substrate structure.



Micro-fiber resonator sensing



Microfiber and Microcoil Resonators and Resonant Sensors

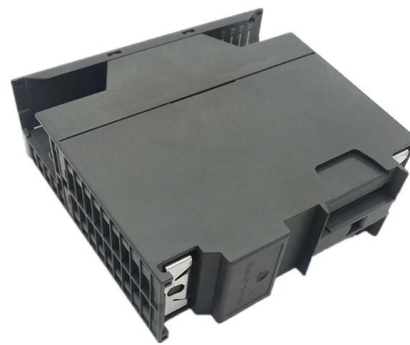
Embedded MF resonators are stable, portable, robust, and represent the key element for practical sensing applications. Refractometric resonant sensors can be easily manufactured from MF

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Relative Humidity Sensors Based on Microfiber Knot

Recent research and development progress of relative humidity sensors using microfiber knot resonators (MKRs) are reviewed by considering the

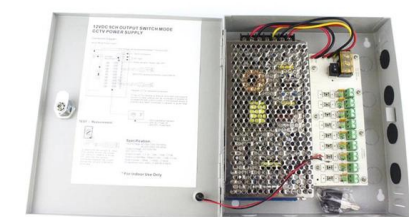
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Microfiber Knot Resonators for Sensing Applications

Microfiber knot resonators can also be applied for sensing many other types of parameters in addition to temperature and refractive index. Examples of other applications will now be explored.

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Systematic investigation of spectral characteristics and sensing

Among microfiber resonators, microfiber knot resonator (MKR) has outstanding advantages of stable performance and adjustable free spectral range compared with the microfiber



Fiber-Optic Magnetic Field Sensing Based on Microfiber Knot Resonator

A kind of all-fiber magnetic field sensing structure is proposed and demonstrated here. The sensing element includes a microfiber knot resonator (MKR) clad with magnetic fluid (MF).

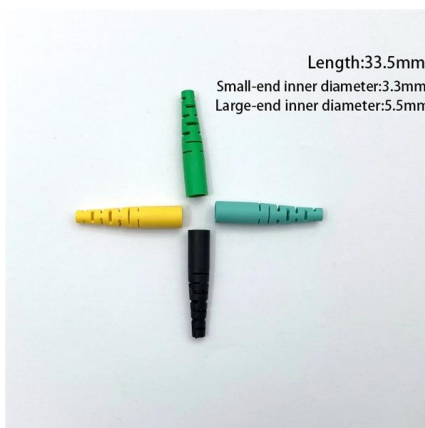
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Solution concentration and refractive index sensing based on polymer

Solution concentration and refractive index sensing based on polymer microfiber knot resonator Huaqing Yu, Liangbin Xiong, Zhihong Chen, Qiangang Li, Xunong Yi, Yu Ding, Feng

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Microfiber knot resonator with 107 Q-factor record

In this work, we present the first systematic investigation into the long-standing Q-factor bottleneck of microfiber knot resonators, identifying and quantifying the fundamental limiting

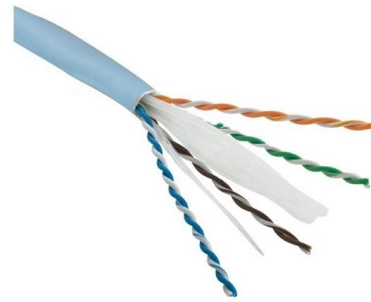
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Fiber-Optic Magnetic Field Sensing Based on Microfiber

A kind of all-fiber magnetic field sensing structure is proposed and demonstrated here. The sensing element includes a microfiber knot resonator

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Biochemical sensing in graphene-enhanced microfiber resonators with

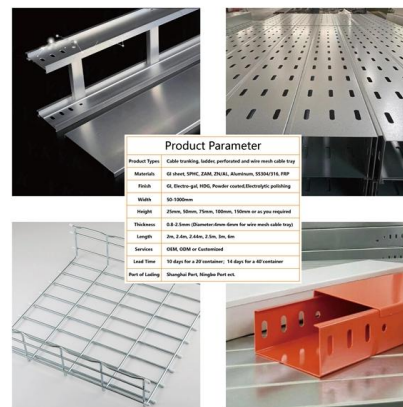
On this microfiber resonator platform, other candidates, such as quantum dots 36, sulfides 37, and conjugated polymers 38, 39, are also potential fluorescent probes for achieving

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Microfiber knot resonator with 107 Q-factor record

We constructed a silica microfiber knot resonator fabrication model and achieved a record high Q-factor of 3.9×10^7 for this intriguing all-fiber soft resonator scheme, paving the path for more

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Evolutionary processes and applications of microfiber resonant Rings:

This review provides a comprehensive analysis of the principle of MFRR and describes various fabrication methods, including microfiber loop resonators (MLR), microfiber knot resonators

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Microfiber Knot Resonators as Sensors A Review

3 SENSING WITH MICROFIBER KNOT RESONATORS physical, chemical, and biochemical parameters. A more detailed analysis of some published results will now be made regarding mainly

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Sensing performance improvement of resonating sensors based on

In this review, the microfiber knot resonators reported in the last decade have been reviewed, compared and analyzed. The future research has been prospected finally.

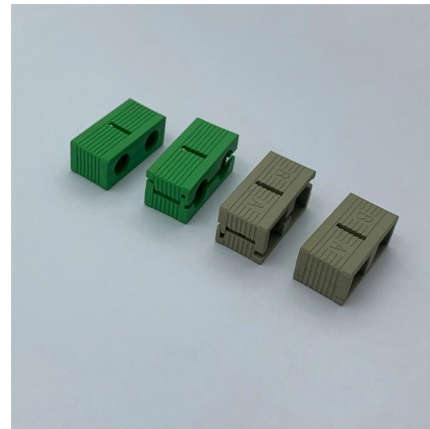
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Lab-on-Fiber Microfiber Knot Resonator for Respiratory Rate Sensing

To achieve accurate measurement of respiratory rate, we have proposed a novel all-fiber sensor based on a lab-on-fiber microfiber knot resonator. The sensor is made of precisely knotted

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Simulation of Optical Microfiber Loop Resonators for

Based on theoretical modeling and optimization, we exploit the application of optical microfiber loop resonators in ambient refractive index

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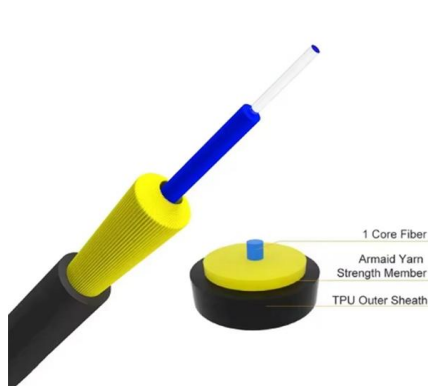
Preparation and application of microfiber



resonant ring sensors: A

The sensing technology based on microfiber resonant ring has the advantages of anti-interference, quick response, high resolution, small size and stable measurement, which enable its

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Research on acoustic sensing device based on microfiber knot resonator

Research on acoustic sensing device based on microfiber knot resonator Rongyu Zhao, Jiangong Cui, Yaxin Yu, Xiaoping Zhai, Xiaoxia Chu, Min Zhu, Bofeng Wu, Yuhua Yang, Renxin

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(PDF) Microfiber Knot Resonators as Sensors

Microfiber knot resonators find application in many different fields of action, of which an important one is the optical sensing. The large evanescent field of light can

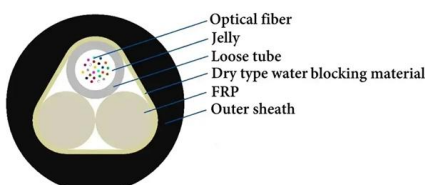
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Sensitivity-controllable refractive index sensor based on

In this paper, we report a sensitivity-controllable refractive index (RI) sensor based on a reflective ?-shaped microfiber resonator cooperated with

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Microfiber knot resonator augmented quartz-enhanced photoacoustic

In this work, a microfiber knot resonator augmented quartz-enhanced photoacoustic spectroscopy (MKR-QEPAS) was developed for the analysis of trace gas

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Temperature sensor and fiber laser based on optical microfiber knot

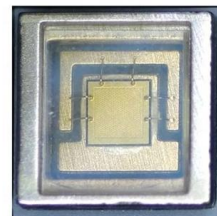
Microfiber resonators have recently gained increasing research interest for their potential applications in integrated photonic circuits designs to serve a multitude of applications ranging from

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Relative Humidity Sensors Based on Microfiber Knot Resonators--A

The sensing performance of the MKR-based relative humidity sensors is discussed, including sensitivity, resolution, and response time. Keywords: fiber-optic sensor, microfiber,

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Microfiber Knot Resonators for Sensing Applications

In this chapter, a review on sensing with microfiber knot resonators is presented, with particular emphasis on the application of these structures as temperature and refractive index sensors.

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Microfiber Knot Resonators as Sensors

A review on microfiber knot resonators as sensors is presented, with particular emphasis on their application as temperature and refractive index sensors. The properties of these structures are

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Research on acoustic sensing device based on microfiber knot resonator

In this paper, the design of the micro-nano fiber ring resonator and the test of the acoustic sensing effect are carried out. The micro-nano fiber ring resonator is designed and fabricated, the plate glass with

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Microfiber Knot Resonators: Structure, Spectral Properties, and

In addition to the unique properties of microfibers such as strong evanescent field, low optical loss, and easy integration, microfiber knot resonators further improve the sensing

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- 50KW/100KWH
- HIGHER POWER OUTPUT IN OFF-GRID MODE
- CONVENIENT OPERATION & MAINTENANCE
- PRE-WIRED

PDMS packaged microfiber knot resonator used for sensing

Abstract In this paper, we proposed a sensitive load sensor probe based on microfiber resonator. The microfiber was prepared from the common single mode fiber by one-step heating

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Flexible Smart Sensing Skin Based on Optical Microfiber Knot

A piece of smart sensing skin consisting of a quartet of MKR sensors is demonstrated to determine the spatial position of an underwater acoustic source in the 3-D space.

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In-Fiber Polymer Microdisk Resonator and Its Sensing Applications of

We proposed and realized an all-in-fiber polymer microdisk whispering-gallery mode (WGM) resonator, which is composed of a nanoscale polymer waveguide in conjunction with a

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