

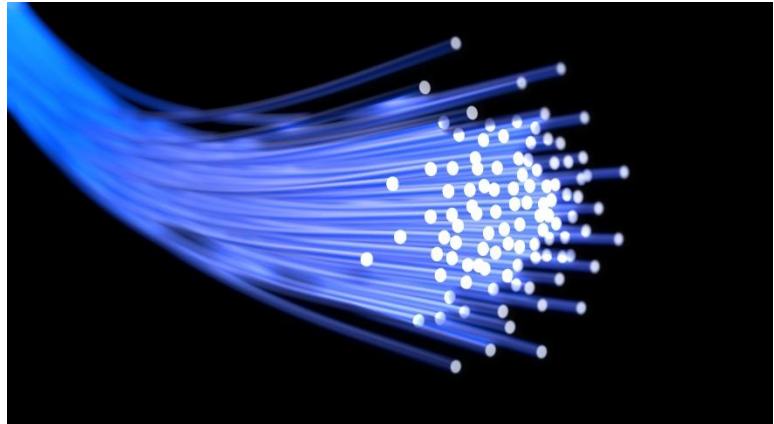


Optical fiber without distal lens for endoscope to reach new or moving areas.

Technology

The absence of lens in the distal part makes it possible to considerably reduce the diameter of the fiber.

The reconstruction of the images is made by an estimation algorithm.



It is possible to recalculate the images while the fiber is in motion, which opens up new horizons

Benefits

- Access to new areas of exploration
- Compatible with visible, infrared and fluorescence light.
- Resolution:
 - 100 x 100 pixels
 - Can be adjusted according to the numerical aperture of the fiber between 0.22 and 1.5 μ m
- Frame Rate: 10 frames per second ~20 000 pixels per second
- Small diameter:
 - 250 μ m diameter with the protective sheath
 - 125 μ m diameter without protective sheath
- Optic fiber length: up to 1,5 meter
- Minimum bending radius of 1 cm
- The cost price of the specific optical fiber is compatible with single use

Applications

- In Health:
 - Functional exploration in Gastroenterology (Pancreas, Gallbladder)
 - ENT
 - Pulmonology
 - Functional exploration of neurons on a moving animal model
- Others:
 - Non-destructive testing in mechanics...

Keywords

- Endoscope
- LensLess
- Optical Fiber
- Small Diameter

Intellectual Property

Priority Patent
FR2110638 filed on
07/10/2021

Development Status

A first functional benchtop prototype has been developed.

A second one, more compact and transportable is under development.

Partnership

License

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