

# Special Spun High Birefringence Fiber

**Dr. Yong Huang**

yong.huang@comcore.com



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[www.comcore.com](http://www.comcore.com)

# Comcore Special Spun Hi-Bi Fibers

## Technology Breakthrough

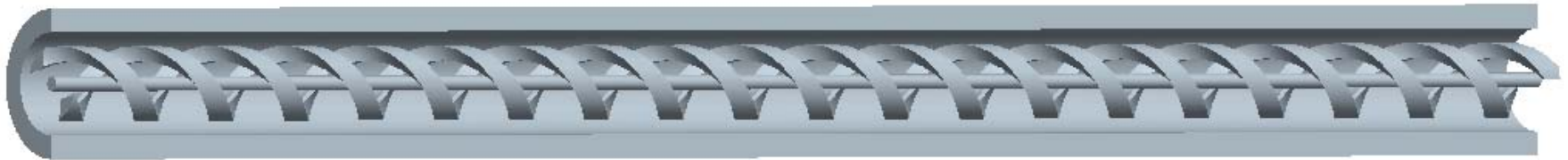
Development from Comcore Opens a

# New Era



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# 1. Uniform Spinning Pitch Length in Whole Fiber



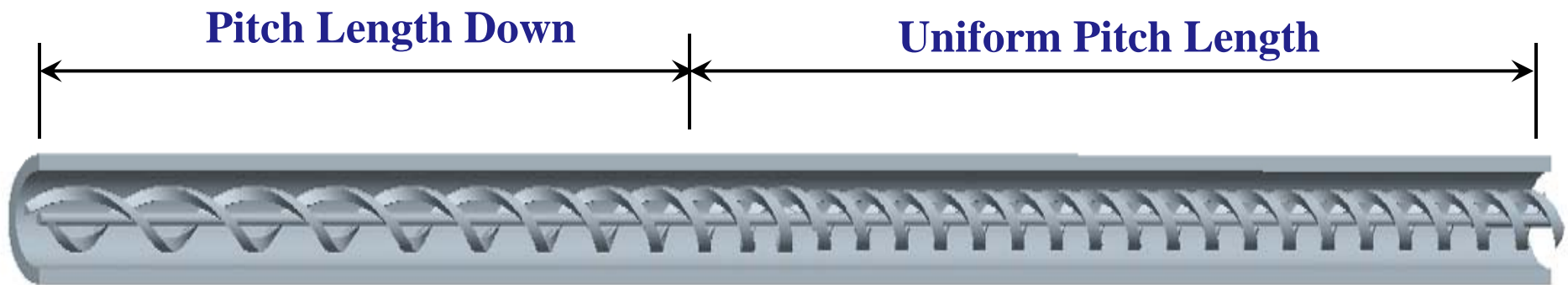
The range for uniform pitch length is around 10 meters which can be increased on customer's request. Quarter wave plates are required for current sensors.

## 2. Symmetrical Spinning Pitch Length in Whole Fiber



Note: The range for pitch length down or up is about 0.3 ~ 0.4 meter. The range for uniform pitch length is around 9.5 meter which can be increased on customer's request. Quarter wave plates are not required for transmissive type current sensors. Both ends can be directly spliced to normal panda fiber.

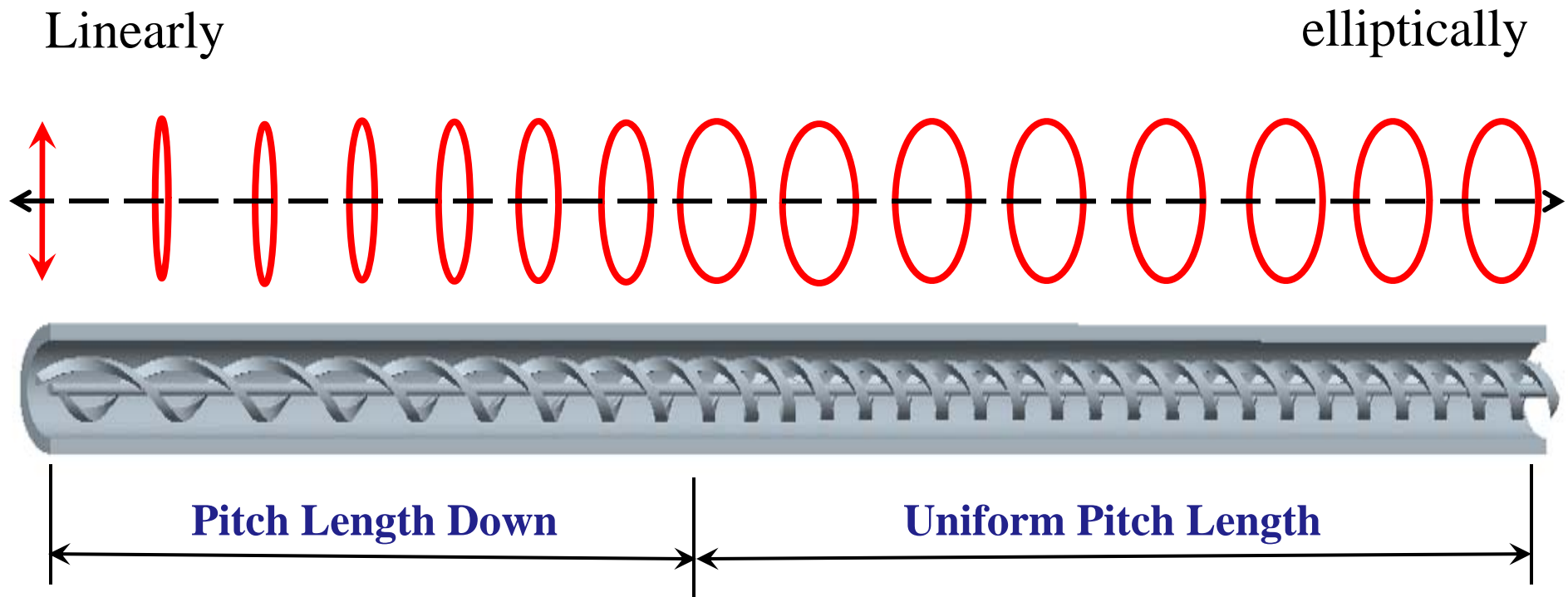
### 3. Symmetrical Spinning Pitch Length Distribution in Whole Fiber



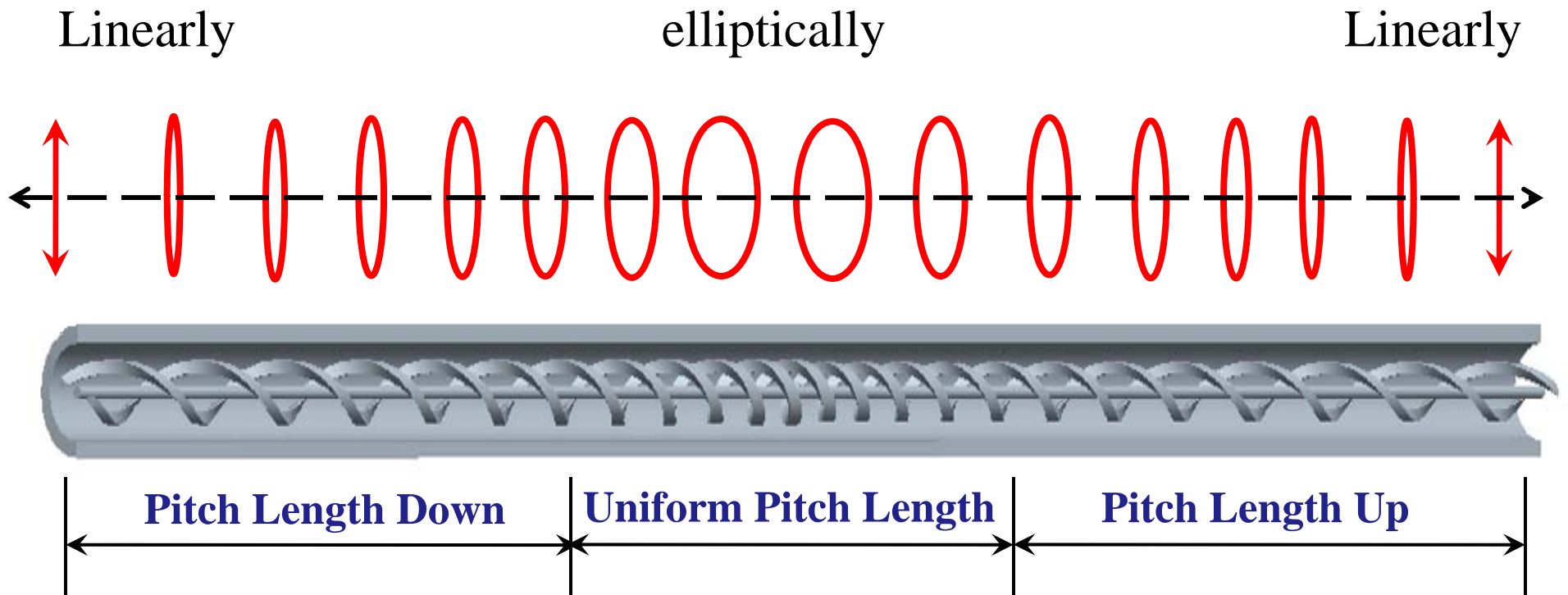
Note: The range for pitch length down is about 0.3~ 0.4meter.

The range for uniform pitch length is around 9.7 meters which can be increased on customer's request. Quarter wave plates are not required for reflective type current sensors. The long pitch length end can be directly spliced to normal panda fiber, the other end surface will be coated with Al or Au as a mirror.

# 4. Polarization Evolution Along the Fiber with Monotone Decreasing Pitch Length



# 5. Polarization Evolution Along the Fiber with a Symmetrical Pitch Length Distribution



## **6. Basic Performance or Specifications for Current Sensor Application**

- **Wideband Operation Range from 1310nm ~ 1550nm**
- **Typical Spun Fiber Length: 0.5 to 10 meters**
- **Insertion Loss: less than 0.1 dB per meter**
- **Temperature Dependence of Faraday Effect: 0.2%/°C**
- **Operating Temperature Range: -40°C to +85°C**

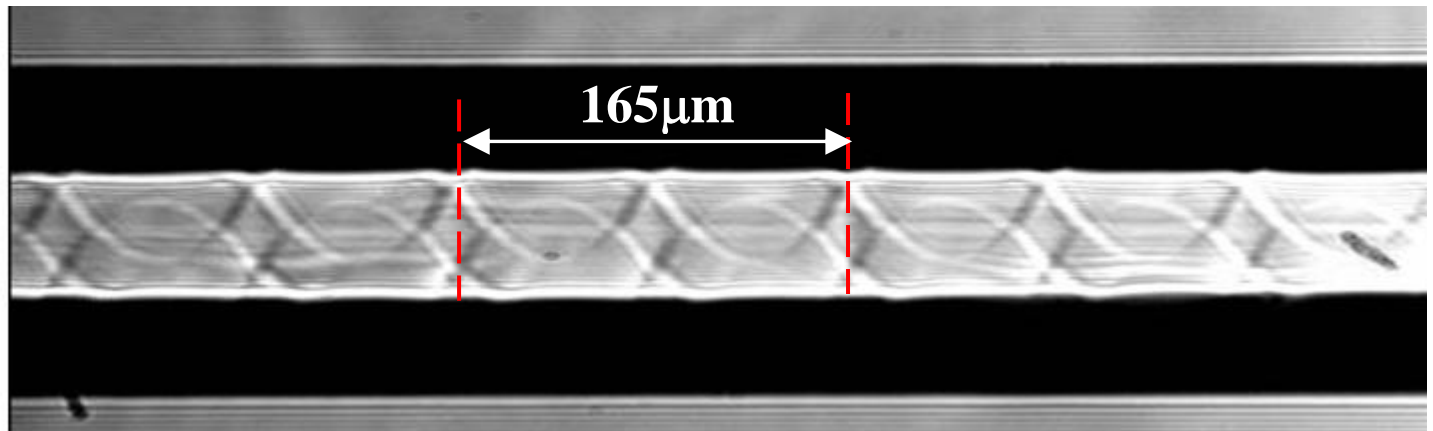
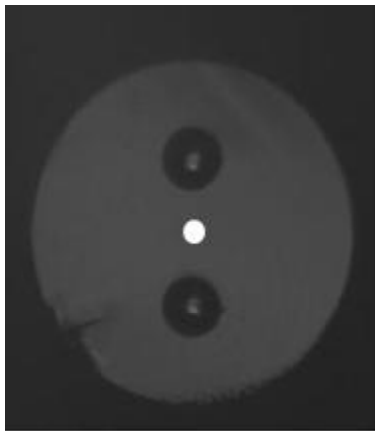




## 7. Capability for Spinning Pitch Length

**Pitch Length: around  $1\mu\text{m}$  to  $50\text{mm}$ , depends on applications**

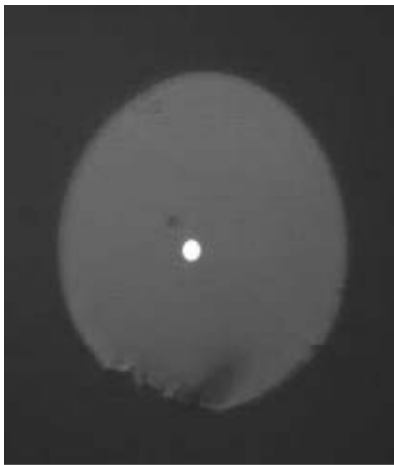
**Example: Using Panda Fiber**



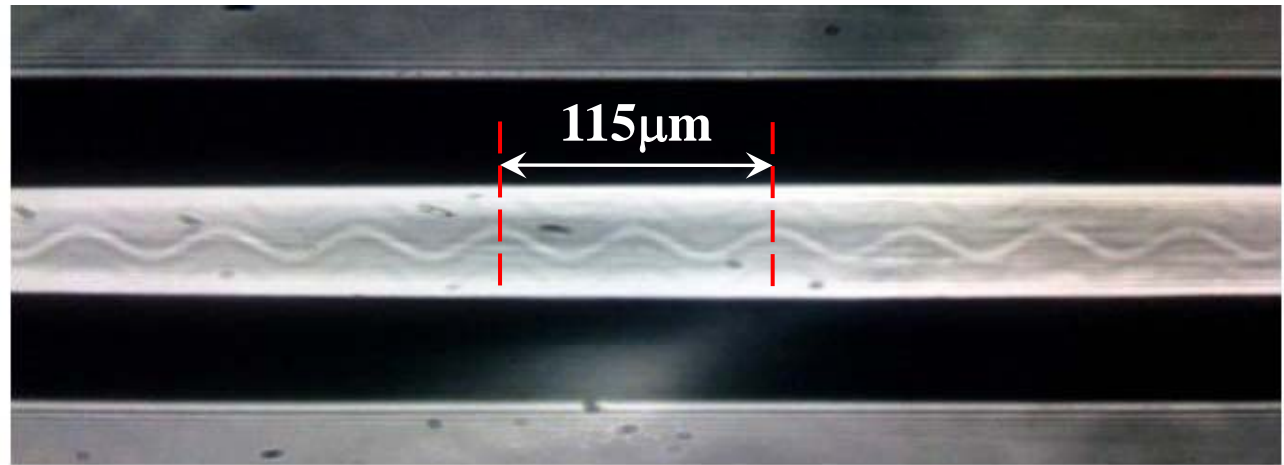
## 8. Capability for Spinning Pitch Length

**Pitch Length:** around  $1\mu\text{m}$  to  $20\text{mm}$ , depends on applications

**Example: Using Eccentric Core Fiber**



**Cross-Sectional Shape**



## 9. Other Potential Applications by Using the Spinning Technology

- **Polarization Transformers**
- **Passive Polarization Scramblers**
- **Temperature Sensors**
- **Stress Sensors**
- **Attenuation Fibers**
- **Liquid Index Probe**
- **Ultra-Low PMD SM Fibers**



# Special Spun High Birefringence Fibre

**Thank You Very Much for Your Time**

**[sales@comcore.com](mailto:sales@comcore.com)**

Main: 510-4988858

Fax: 510-4988867



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[www.comcore.com](http://www.comcore.com)