

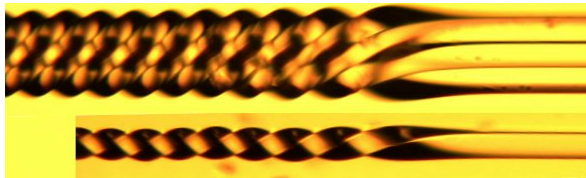


## Microfabrication Services

Microfabrication Services has established and refined precision glass forming and fabrication capabilities. Microfabrication Services creates twisted and tapered chiral structures out of glass fibers and tubing with sub-micron accuracy to address photonic and mechanical applications ranging from lasers, filters and sensors to microscopic heat exchangers and mixers. Capabilities include:

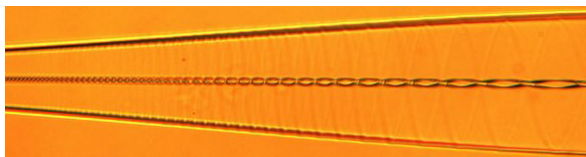
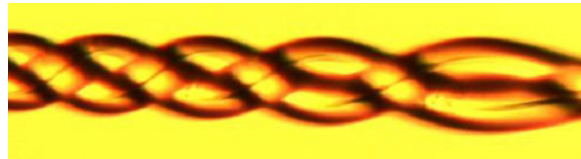
- Twisting to sub-micron pitch with sub-micron accuracy and continuous control
- Tapering to desired profile shapes
- Braiding of fibers and tubing of various shapes and sizes
- Splicing of fibers and tubing with differing thermo-mechanical and/or optical transmission properties to achieve splice profiles and/or low loss photonic connections
- 1D and 3D Photonic Modeling of photonic devices, including splices and taper profiles

Below are some examples of Microfabrication Services' capabilities. Please contact us to discuss your specific requirements and receive a prompt quotation.



← Square capillary tubing with outer dimensions of 120 x 120  $\mu\text{m}$  twisted axially. The inset shows an image of the same tube taken with index matching fluid to reveal the 40 x 40  $\mu\text{m}$  twisted capillary.

Two 28  $\mu\text{m}$  OD fibers braided with a 50  $\mu\text{m}$  pitch.



← A 115 OD fiber tapered to 38  $\mu\text{m}$  while twisting with variable pitch. Image was taken with index matching fluid to reveal the core.

Splice of 30  $\mu\text{m}$  ID silica tube to standard 125  $\mu\text{m}$  silica fiber. The tube ID is tapered during the splicing operation for alignment purposes and the taper profile can be controlled to accommodate the project needs.

