

Attaching 0.7 mm OD x 0.3 mm ID carbon tube
to sense wire



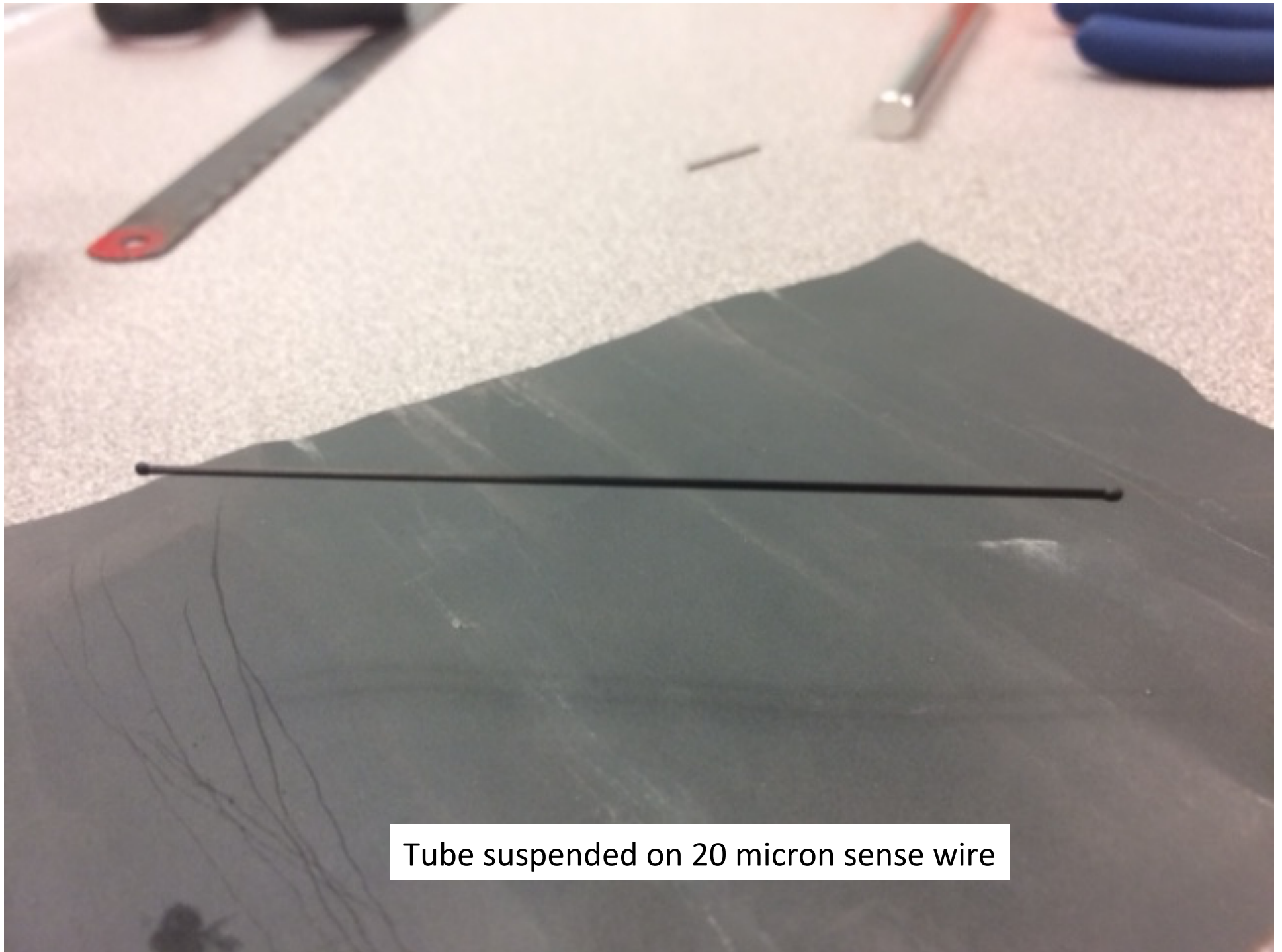
Cut carbon tube with sharp scissors



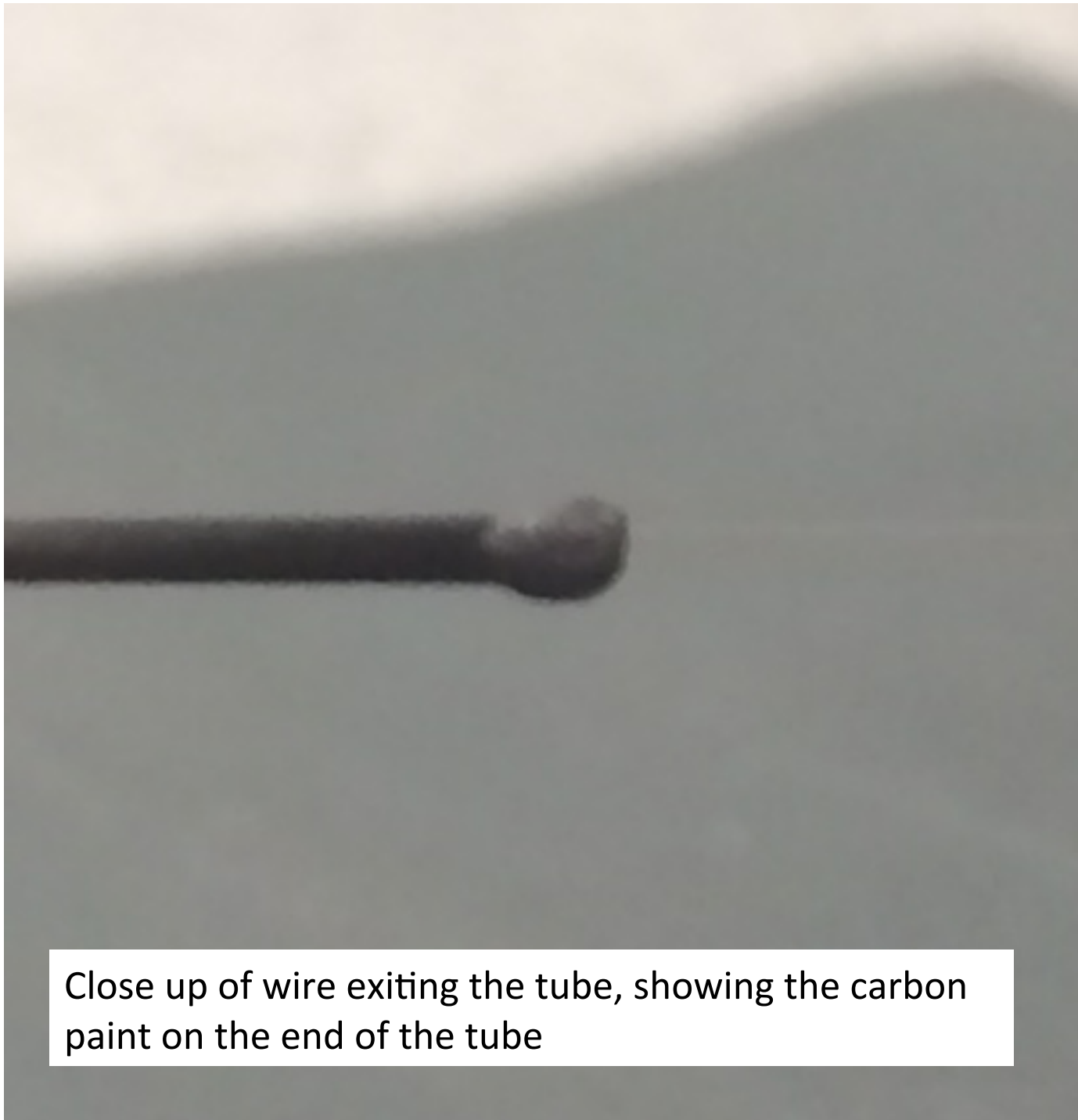
Polish end of tube with 1000 grit sand paper



Looking through the tube



Tube suspended on 20 micron sense wire

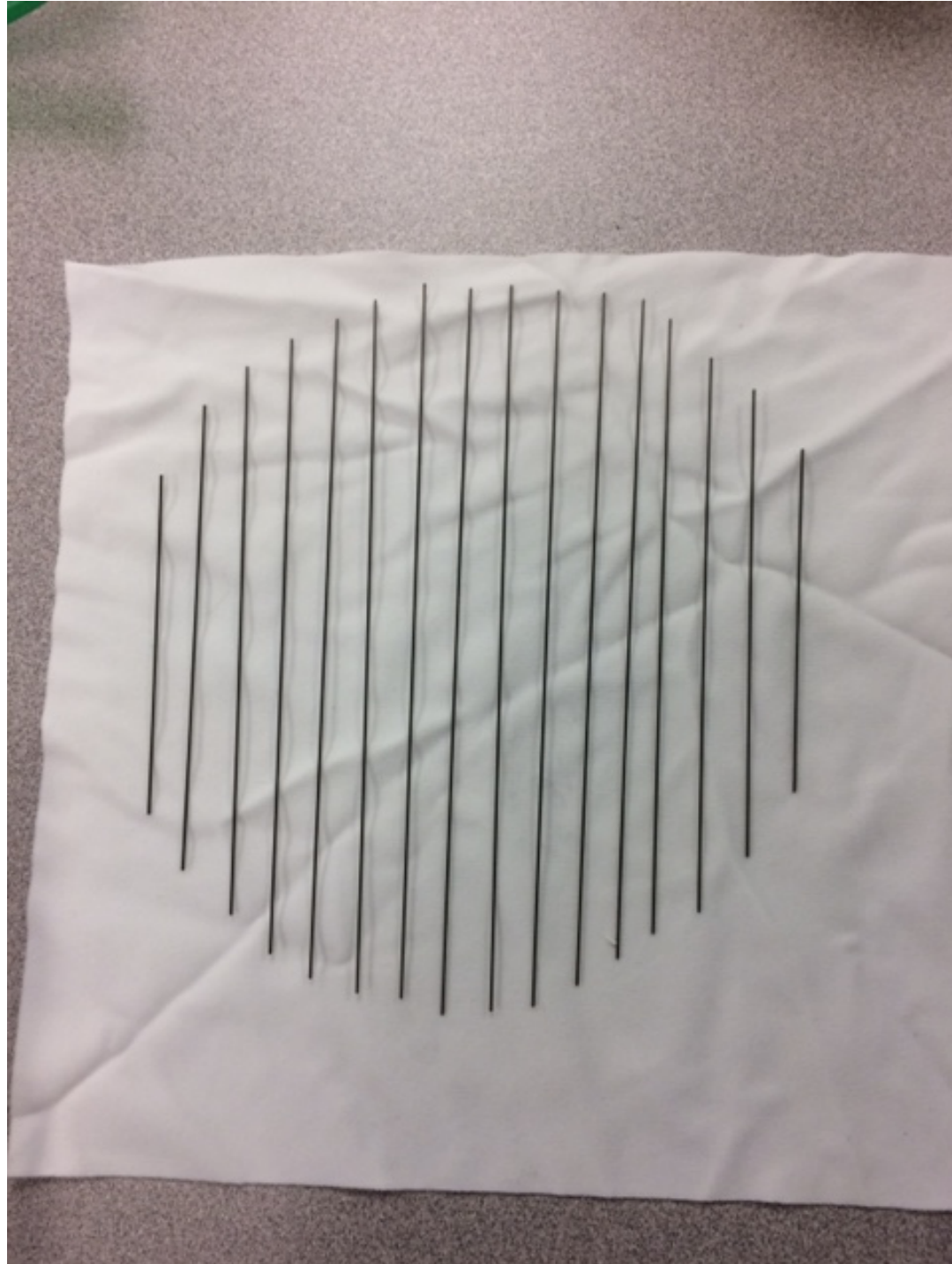


Close up of wire exiting the tube, showing the carbon paint on the end of the tube



Materials

The TOF has a 18 x 18 cm² open area on beam axis.
Carbon tubes are cut corresponding to a circle with 9 cm radius

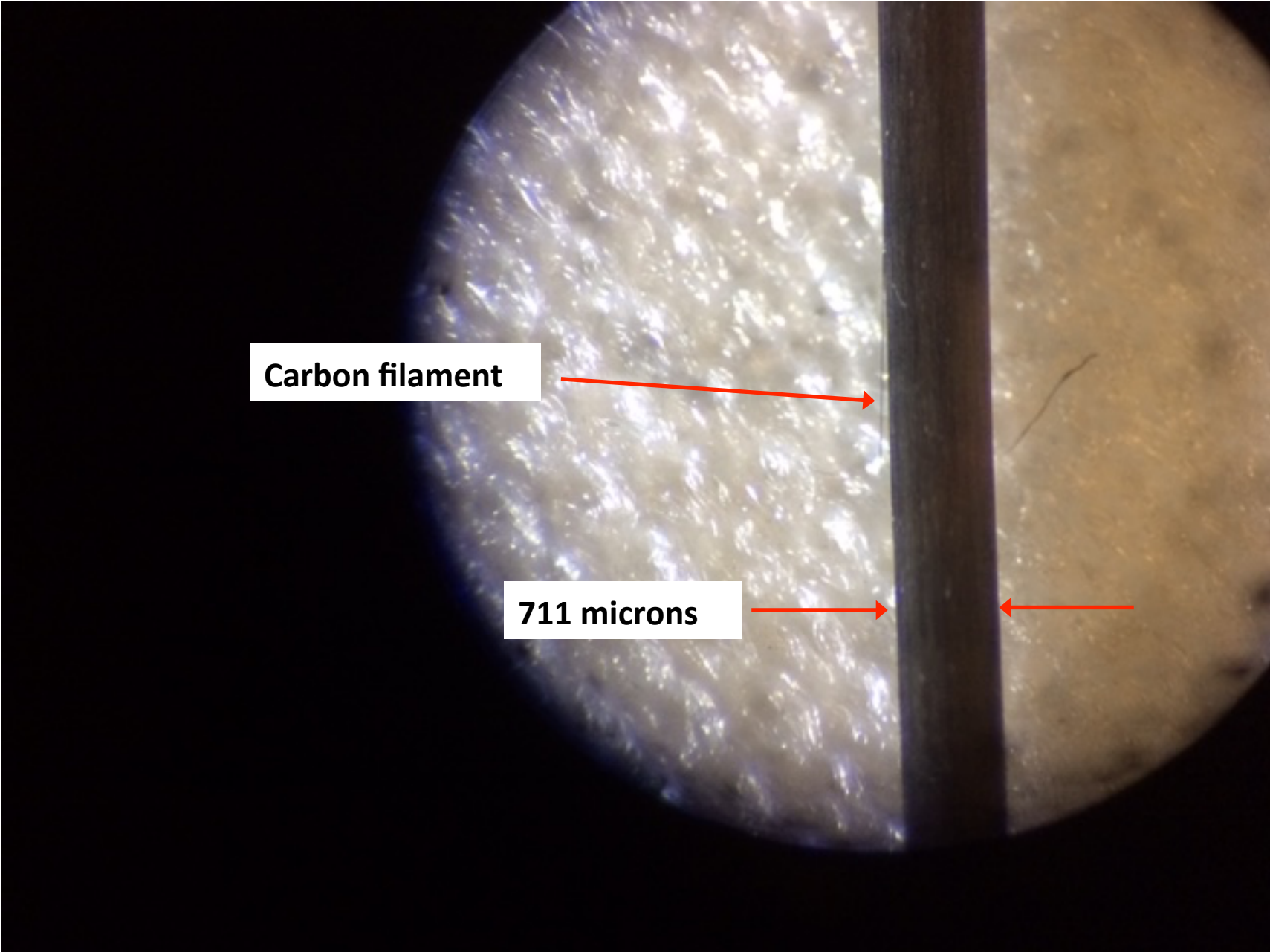


Materials and equipment:

1. CST – The Composites Store. Carbon fiber tube, .028” OD x .011” ID (0.7 mm x 0.3 mm)
2. 1000 grit wetordry sandpaper
3. Sharp scissors
4. 0 round Princeton brush for water or acrylic paints
5. E-Z Slide, Graphite based coating.
6. Microscope
7. Gloves

Steps:

1. Put on gloves
2. Cut the tube to length with sharp scissors
3. Polish the end of tube on 1000 grit sandpaper, with the tube held normal to the plane of the paper. Then rotate tube 45 degrees to your left (or right if you're doing this in your right hand), and draw tube towards you across the sandpaper while rotating tube between fingers.
4. Polishing the tube: fold sandpaper in half, and draw tube between the folded sandpaper, pulling the tube back and forth as you rotate tube.
5. Polish tube on polyester rag.
6. Do a complete inspection of the tube with microscope. Make sure there are no loose fibers on the rod. Repeat 4 and 5 as needed.



Carbon filament

711 microns

7. Wipe tube with alcohol and polyester rag.
8. String tube on wire. Hold wire stationary, and push tube onto wire.
9. Take small drop of paint onto brush. Touch the top of the tube where the wire exits. Repeat on the bottom of the tube. Repeat on other end of tube.
10. Don't touch tube until paint dries. If you do you might break the paint-wire bond, and the tube will slide on the wire.