Mounting Samples onto the Solid-State Sample Plate – WEAR GLOVES

1) There are copper or aluminum sample holders for the solid-state endstation. The plate choice depends on your elements of interest.

There are long and short copper sample holders, and long aluminum sample holders. Typically, a long sample holder is used if many samples are to be analyzed.


Note:

- When measuring low-energy elements, such as silicon or phosphorus, you can use the copper sample holder to minimize the background effect of the aluminum sample holder.

- When measuring high-energy elements, such as nickel or copper, you can use the aluminum sample holder or mount your samples on an aluminum sheet attached to the copper holder to minimize the background effect of the copper plate on your spectra.

2) Ensure the plate is clean by wiping it down with methanol and drying thoroughly.

3) Cut as many small strips of carbon tape as needed and place them in one column at least 2 mm apart, leaving the protective backing on the tape. Try to avoid placing samples on top of the plate screws, as this may affect the quality of your spectra.
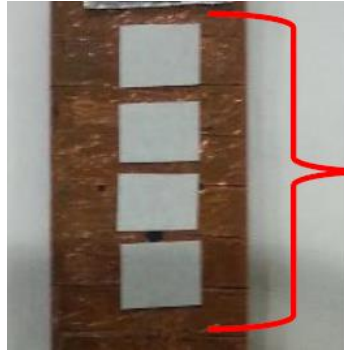
align tape pieces like this

4) Remove the backing from one piece of tape.

5) Using a spatula and a small amount of sample, spread a thin layer of sample evenly over the tape.
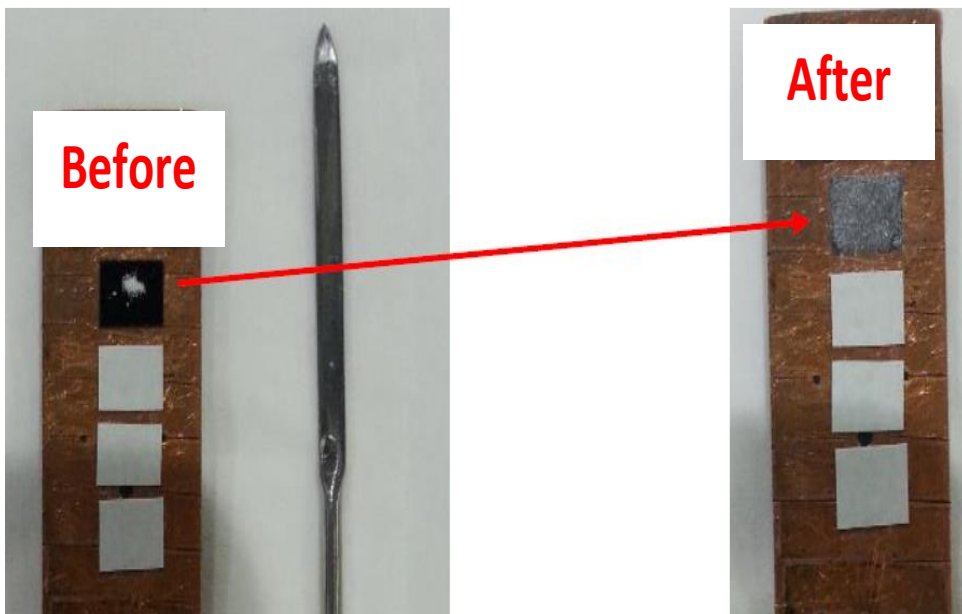
6) Tap the plate or use compressed air to remove the excess sample from around the tape.

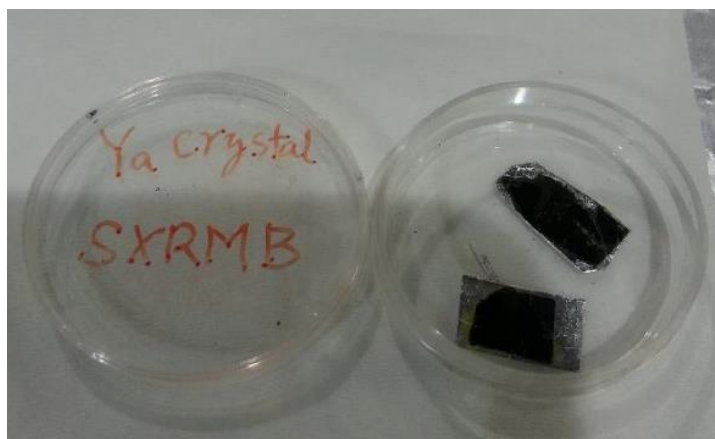7) Repeat steps 4-5 until all the samples are mounted on the plate.

8) If you have many samples to measure, you can use the long sample holder along with a cutting template to cut the carbon tape, which allows you to mount up to 40 samples on both the front and back sides of the sample holder.

Mounted sample holder-front side

9) Make sure to keep a clear and concise log of your mounted samples.

10) Place a YAG crystal (provided by the beamline) at the bottom of the holder using double sided carbon tape. If you are also mounting on the back side of the sample holder, place one YAG crystal at the top and another at the bottom of the holder.

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