

WEEKLY REPORT

W- 25: RANIT MONGA

Yvonne Project RTDs fabrication:

Metal Deposition by Sputtering and Evaporation (Ti/Pt: 20 nm/ 200 nm)



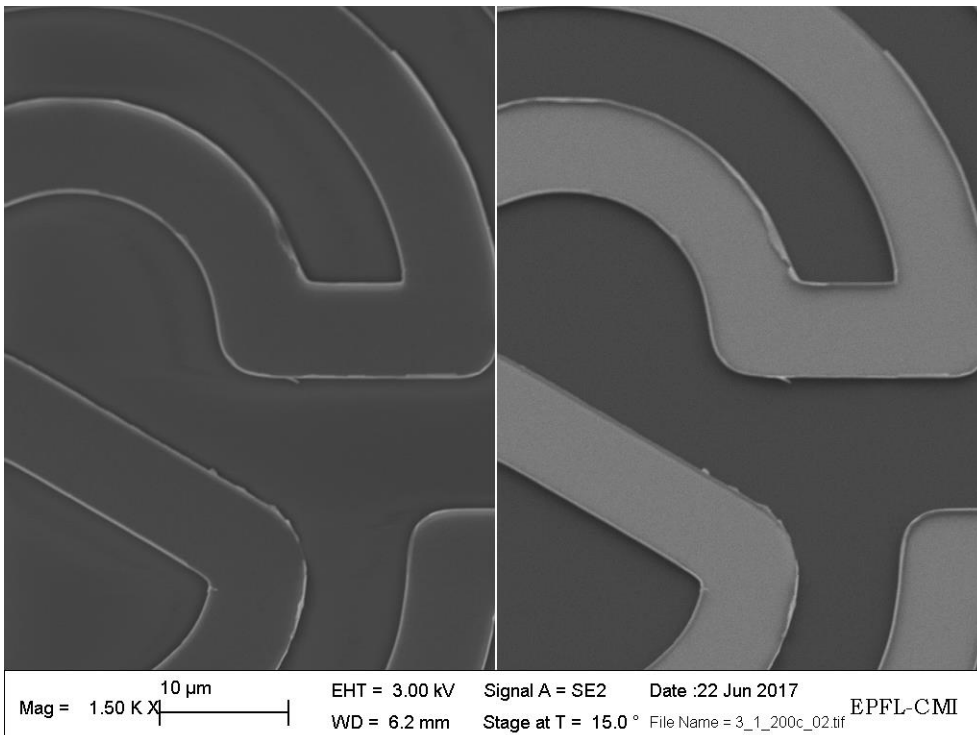
Metallic line for 200 Ω coiled RTD with sputtered metal deposition at 100x zoom.



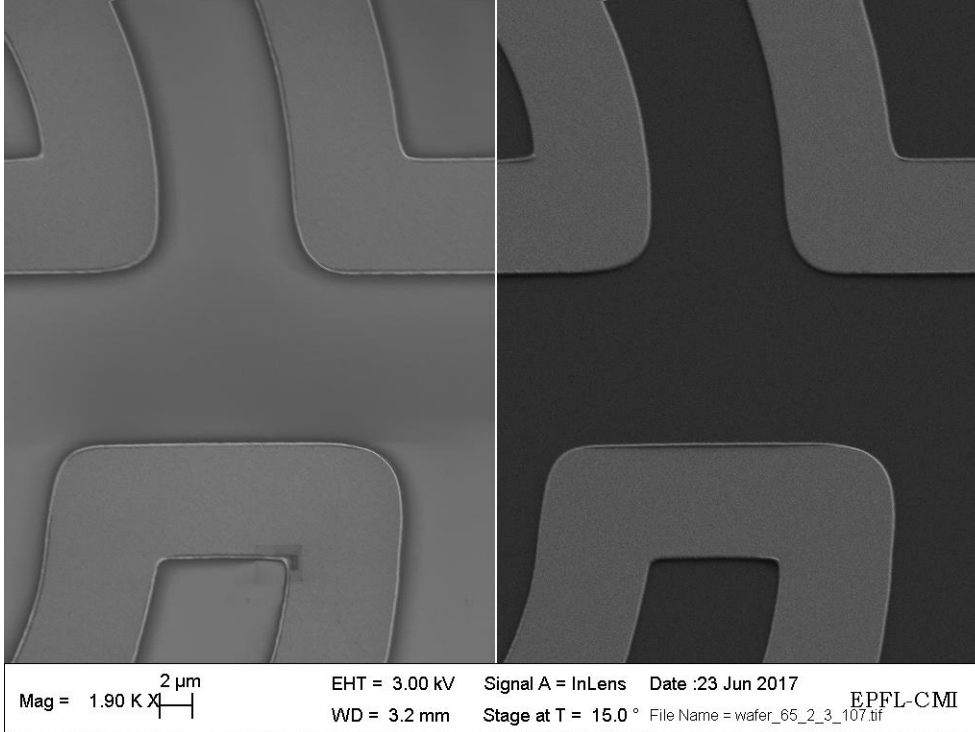
Metallic line for 200 Ω coiled RTD with evaporated metal deposition at 100x zoom.

Remark:

- Evaporated metallic lines have relatively sharp edges without any local delamination, post the lift-off, as compared to the sputtered ones.



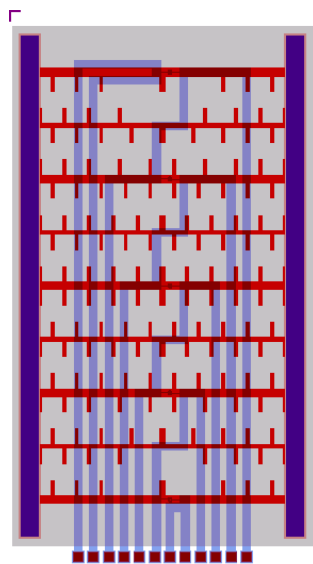
A SEM image of a sputtered metallic line after lift-off, showing the roll-up of metallic line near the edges.



A SEM image of a evaporated metallic line after lift-off, showing minimal roll-up of metallic line near the edges.

Heater Microfabrication:

Metal Deposition: 20 nm Ti/ 400 nm Pt by Sputtering (DP-650).



An alternate design of integrated heater and RTDs with both of them being patterned out of the same metallic thin film. The process flow for this design is to be discussed upon.

Tasks for the next days:

- Profilometry measurements.
- Passivation of Metallic lines, Photolithography for contact pad opening: Tuesday
- Passivation Etch, Photolithography for contact pads: Wednesday
- Gold Deposition by Evaporation, Lift-off: Thursday.
- Testing of 2 wafers (1 wafer each for evaporation + sputtering).