



Science and  
Technology  
Facilities Council



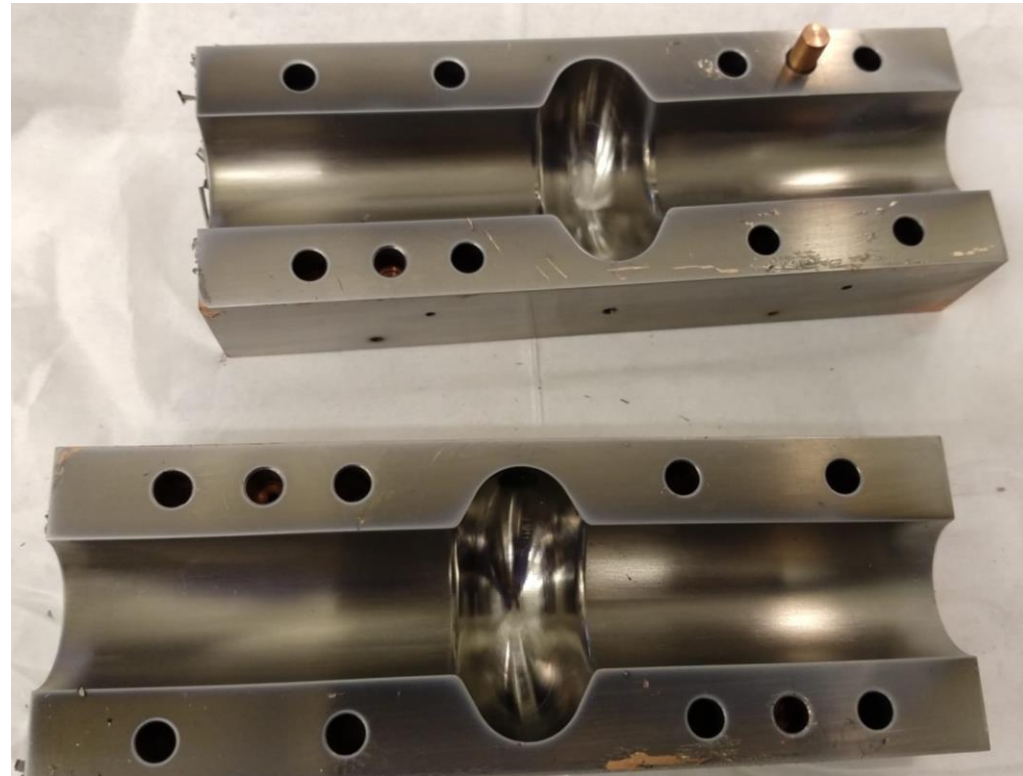
# Split 6 GHz cavities

Taaj Sian, Graeme Burt, Reza Valizadeh, Oleg Malyshev, Harry Marks



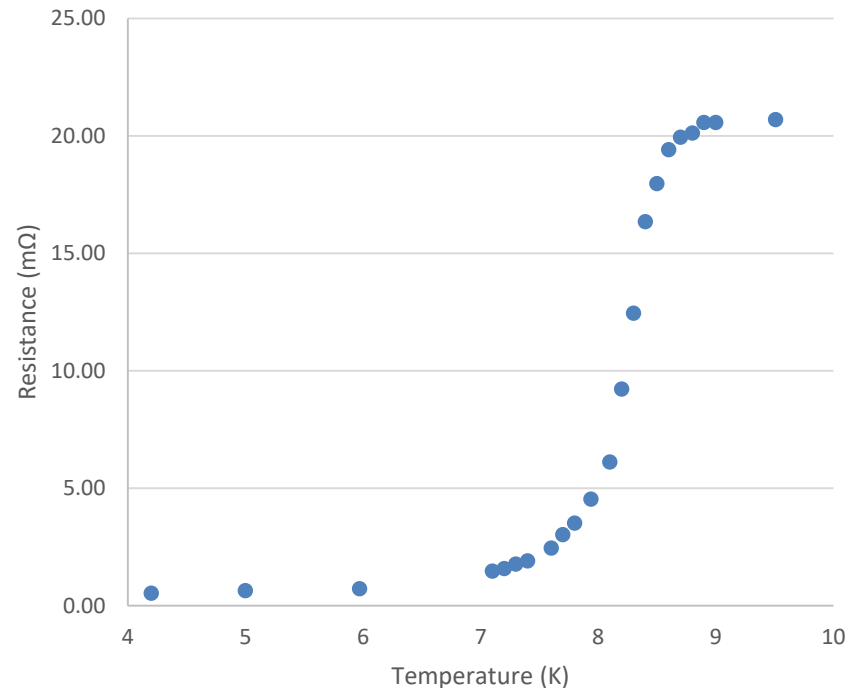
# 6 GHz cavity recap

- Cavity A was coated with Nb
- We had some delamination on the cavity but not in the important parts (the coupling pipe and the actual cavity)
- It was a quick coating (non optimised parameters for deposition so that the  $R_s$  measurement facility could be tested



# First Nb Coating Results Recap

- Measurement of surface resistance showed a clear transition
- Transition was in the correct temperature range
- The  $R_s$  at 4.2 K was measured to be  $5.3 \times 10^{-1} \text{ m}\Omega$
- $R_{\text{bcs}}$  for Nb is  $1.15 \times 10^{-2} \text{ m}\Omega$  at 4.2 K and 6 GHz
- Maybe due to imperfection of the thin film as it was a trial coating.



# 6 GHz Cavities Current Status

---

- Cavities B and C have been Electro-Polished by INFN and are at DL. Thank you to Cristian and Eduard and the rest of the team at Legnaro INFN and are now at DL
- Cavity A is with Reza at DL and awaiting deposition
- Next steps will be to coat cavity A with better deposition parameters and test it again
- When we have a good deposition we will move on to coat and test the cavities from INFN
- We will also test cavities B and C at room temperature just before deposition

Thank you

Questions?