



# SSR2 processing at FNAL/ANL

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SSRs ALL Partners Meeting

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In partnership with:

France/CNRS/IN2P3 - IPNO

India/DAE - BARC

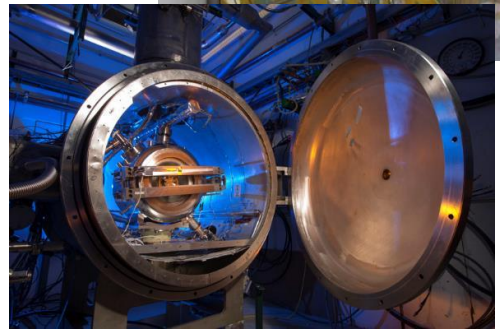
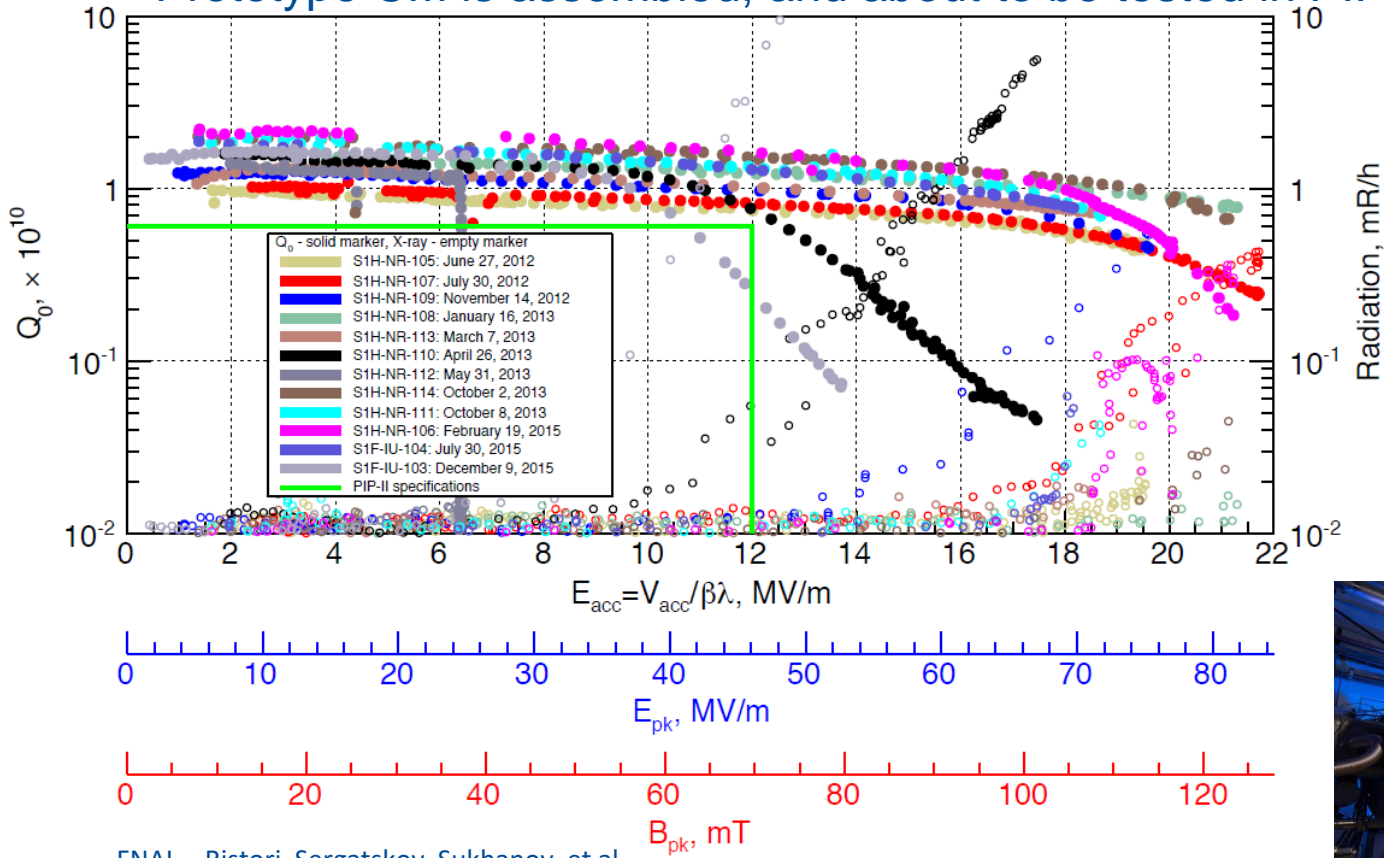
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# Outline

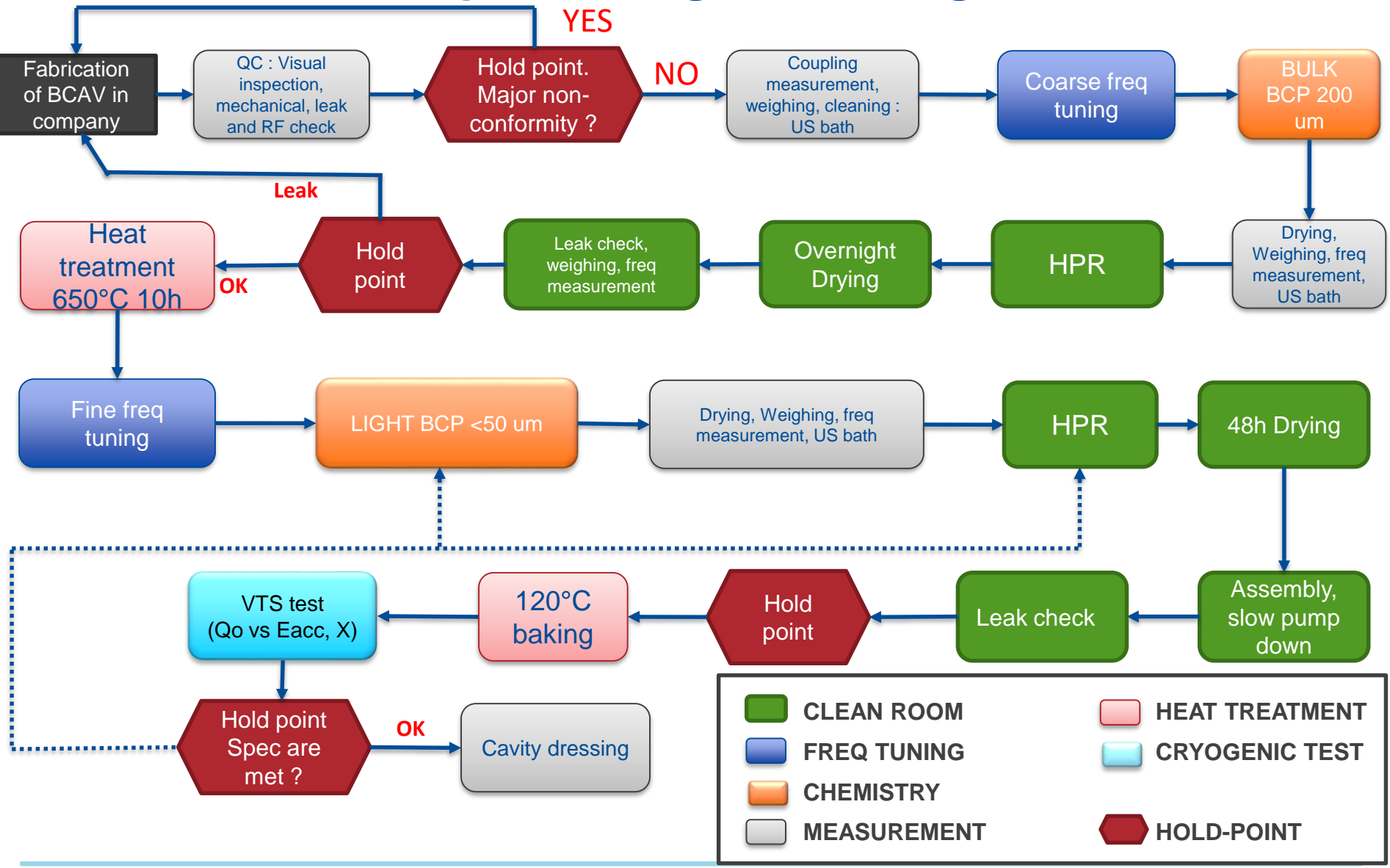
- Processing flowchart for SSR2 bare and jacketed cavities:
  - BCP bulk and light
  - US cleaning & HPR
  - Degassing at 650 C
  - 120 C bake prior to VTS
  - VTS (bare cavity) and STC (jacketed cavity) cold tests
- Summary

# SSR1 cavities results

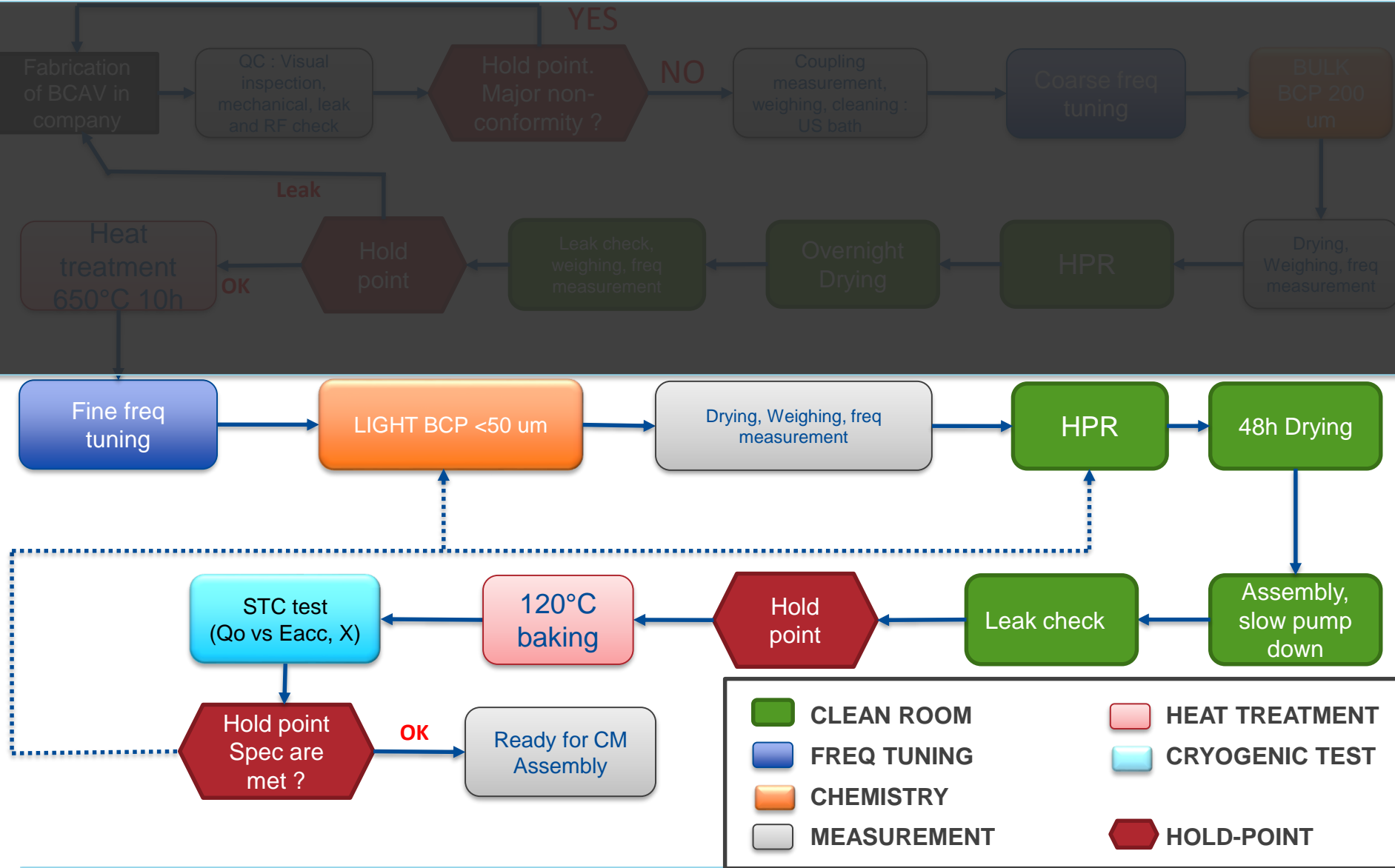
- 10 qualified bare cavities through VTS + 1 through STC
- 2 IIFC (IUAC) collaboration cavity tested in VTS (1 qualified)
- All processed and tested at FNAL/ANL
- Prototype CM is assembled, and about to be tested in PIP2IT



# SSR2 bare cavities processing and testing flow



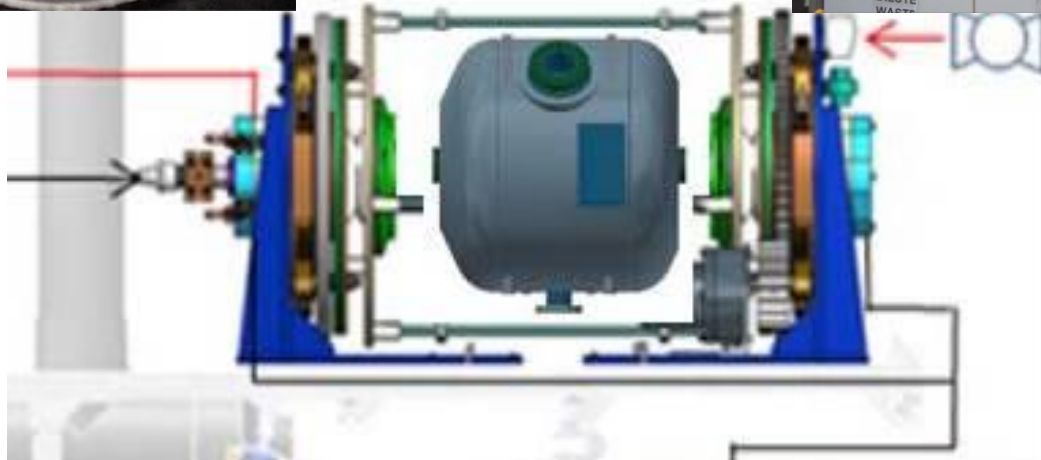
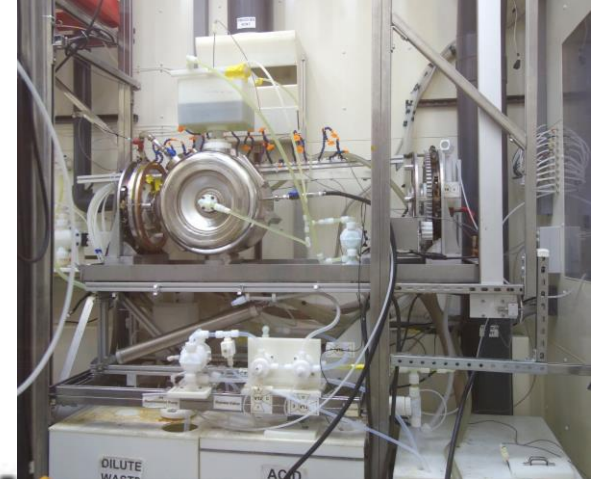
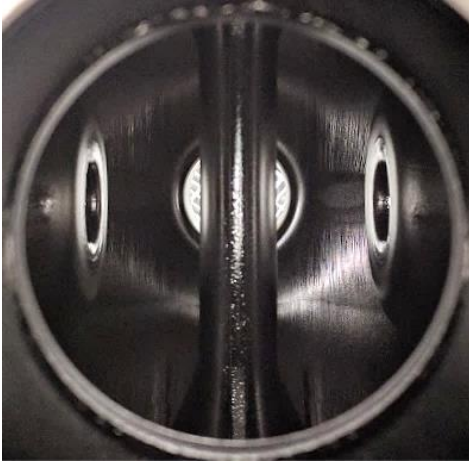
# SSR2 jacketed cavities processing and testing flow





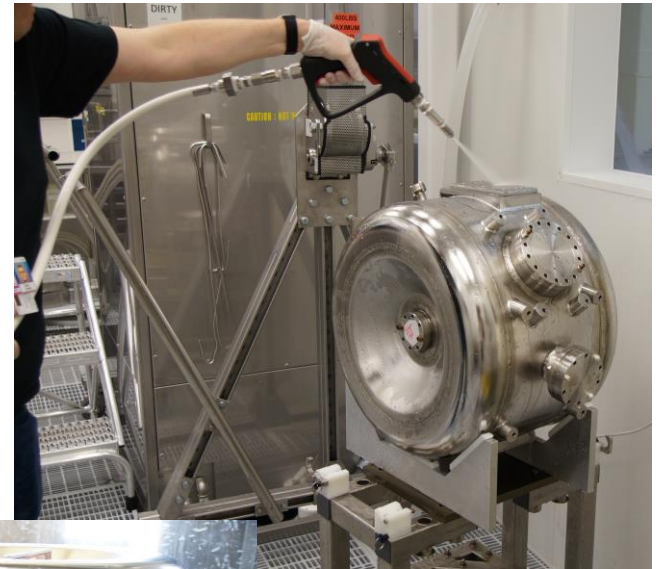
## SSR2 bulk and light rotational BCP

- Both bare and Jacketed SSR2 BCP will be done at ANL facility, following RFD cavity experience: rotational BCP through both CP and VP.



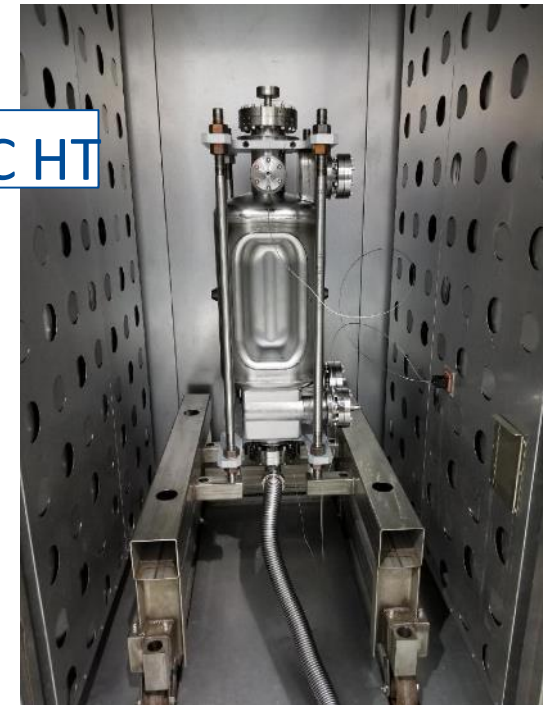
## SSR2 vertical and horizontal and exterior HPR

- Clean room facilities are ready to accommodate for bare and dressed SSR2 HPR and US cleaning. (SSR2 HPR at MP9, pictures from SSSR1 at ANL)



## SSR2 heat treatments

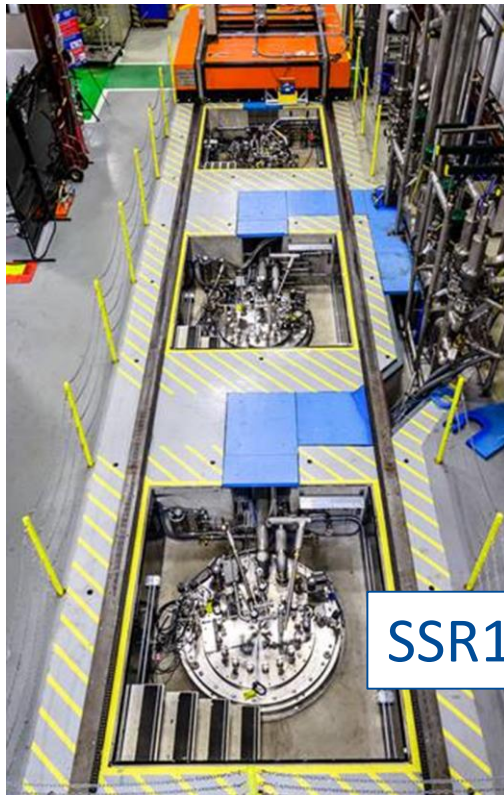
- FNAL facilities allow for 650 C and 120 C heat treatments
- Facilities have been validated through other FNAL projects: LCLS-II, PIP-II and HL-LHC-AUP
- Procedures for all activities at FNAL/ANL facilities are being written





# VTS and STC test cryostats

- Vertical test facility at FNAL in IB1 for bare SSR2 cavities cold test
- Spoke Test Cryostat (STC) will be used to qualify dressed SSR2 cavities.
- Both cryostat were used for SSR1 cavities as well



# Summary

- Facilities and personnel have shown great capabilities in the past no foreseen problems for SSR2 cavities.
- A sound processing and testing plan is in place.
- FNAL is ready to start the manufacturing phase of the prototype cavities.
- FNAL and ANL procedures are being written based on past experience (SSR1 and other non-elliptical resonators)