9-cell cavity coordination

CM Ginsburg

15 Mar. 2010

Production Cavities in progress

- TB9ACC013 (dressed)
  - At HTS. To be warmed up Wed. Then, remove cold coupler in cleanroom and inspect, then Questar inspection of cavity, then HPR unless something plan-changing is found during the inspection
- TB9AES009 (dressed)
  - tuner and magnetic shield assembly today
  - HTS installation previously planned for 15.Mar. delayed until next week
  - Eng Note not ready. To be submitted today for approval. Ok to do preliminary work, including pressure test, but not cooldown. Estimate one week delay for cooldown.
- ACCEL8 (dressed)
  - Was HPR'd and prepared for HTS last week at FNAL/ANL facility; to MP9 early this week
- TB9AES008 (dressed)
  - Headed to ANL this week for fit-up test because of 2-phase pipe
  - Will be next for HTS prep
- TB9AES010 (dressed)
    - Will be next for HTS prep
- TB9ACC016
  - was delivered from JLab 11.Mar; currently in ICB. It's going straight to MP9 for dressing. Ti ring welding at Sciaky is planned for 31.Mar (2 week delay by Sciaky).
- TB9AES007 (@JLab)
  - Started cooling Sat for vertical test tomorrow
- TB9RI018 (@JLab)
  - 1st assembly and 2nd HPR today; estimated vertical test later this week
- (continued…)

Production Cavities (cont.)

- TB9RI024*
  - Tuned (on tuning machine); headed to ANL this week for light-EP and VTS prep. after ANL week-long maintenance shutdown
- TB9RI026
  - Into JLab 800C furnace today, then return to FNAL; tuning; light-EP and VTS prep at FNAL/ANL after TB9RI024*
- TB9RI023* (with the weld void at the transition ring)
  - RI weld void repair at RI is expected to be complete this week
- TB9RI019
  - Arrived at JLab Fri; JLab will do “standard” Questar inspection upon arrival (not full KEK/Kyoto scan) before starting full process/test cycle
- TB9RI029*
  - In transit to JLab for 800C HT
- TB9RI020 done with incoming inspection
- TB9RI021* almost done – still needs field flatness measurement
- Incoming inspection started on TB9RI022*, TB9RI027
- To be inspected: TB9RI025*, TB9RI028
- New cavities
  - The first AES cavities are currently expected to arrive by the end of March. The first two Niowave-Roark cavities are currently expected to be completed by end March.

R&D Cavities in progress

- AES003 (spot polished at KEK)
  - Optical inspection showed interesting features which may explain persistent field emission; under discussion to remedy with by-hand spot polishing and light EP
  - Field flatness measurement and possibly tuning
- ACCEL6 and ACCEL7
  - Held in reserve as CM2 backup cavities until they can be replaced by better cavities
- TB9ACC014 (after dented cell was tuned to lower field)
  - Vertical test 15.Feb.: 29 MV/m at 2K; some FE observed. Q0 @max grad=1.4E10
    - max gradient to be confirmed by 24.Mar
  - retest with second sound and different thermometry configuration
    - second sound system in IB1 to be complete April 5

- TB9ACC010, ACCEL9, TB9AES005, TB9ACC015 (@ Cornell)
  - are in various stages of tumbling and VEP. Being used for VEP commissioning and performance improvement.

- TS7MSU001 & TS7MSU002 (visual inspection and tuning only, then return)
  - Visual inspection complete, field flatness measurement complete, tuning complete
  - In transit back to MSU

9-cell Cavities - By Facility

NB: when in doubt, production cavities always have priority

- Incoming inspection
  - New RI cavities, alternating not-EP'd and EP'd
- Tuning/field flatness measurement
  - AES003 (tuning), TB9RI026 (tuning, when back from JLab), TB9RI022* (FF,when other incoming inspections complete); next will be TB9RI025*(FF), TB9RI027(FF), TB9RI028 (FF) [order uncertain]
- Optical Inspection
  - TB9RI026, TB9RI029* done; AES003 done and to re-appear, next: TB9RI026 (again, after return from JLab 800C HT); up to 3 additional production cavities available [TB9RI020, TB9RI021*, TB9RI022*]
- FNAL/ANL
  - (dressed – for HTS prep) ACCEL8, TB9AES008, TB9AES010
  - (bare – for VTS prep) facility maintenance; TB9RI024* light EP+VTS prep; TB9RI026 light EP+VTS prep (after JLab 800C HT and optical inspection); more light EPs to come down pipeline [TB9RI029*, TB9RI021*, TB9RI022*, TB9RI025*, TB9RI023*]; also several heavy EPs on NR and AES cavities
  - Weighing device to be procured
- VTS
  - Second sound system to be completed
  - TB9RI024* (after light EP); TB9RI026 (after tuning, light EP); TB9ACC014 (with second sound and modified thermometry), same subsequent list as FNAL/ANL (bare) above
- HTS
  - TB9ACC013 , TB9AES009 (installation ~18.March; 3 weeks duration), ACCEL8 (test duration: 2 weeks proposed), TB9AES008 (test duration: 2 weeks proposed), TB9AES010 (test duration: 2 weeks)
- MP9
  - TB9ACC013 (dressed) remove cold coupler in cleanroom and inspect, then Questar inspection; TB9AES009 (dressed) to be delivered to HTS before installation 18.Mar.; HTS prep follows for ACCEL8 (dressed), TB9AES008 (dressed), TB9AES010 (dressed); TB9ACC016 is next for dressing