

# IST SEM systems PSB YETS 2021-2022

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## Description of the tests:

- Test of the movement where applicable
- connectivity tests in situ where needed
- Use of LabView app and/or FESA to inj test signals and check acquisition
- When possible, injection of a test signal with LabView app inside vacuum and on amplifiers
- HOH- continuity tests

Few details on next slides, especially about open issues

More Details (for all SEMs in PS  
complex): [EDMS 2694859 v.1](#)

# BTY - BSGs

- GPS.BSFV01:
  - ch1 floating signal (broken wire?).  
Bias disconnected on this grid
  - Resistance between bias and GND causes the power supply to fail
- HRS.BSFH01:
  - ch21 floating signal. 250ohms measured on the coax.
  - Test signal (on amplifiers) good if this coax is unplugged.  
→ Bias disconnected on this grid, resistance between bias and GND causes the power supply to fail
- CONS request begin prepared for these devices

Ready for operation, 1 ch missing per device, poor absolute accuracy on beam size due to no BIAS but they are used at first for beam position

# TxT BSG (R3)

- Ch 56 broken wire (wrong resistance measured on the patch box between wire signal and test signal)

- Ready for operation with one channel broken  
Reminder: this never used sofar since kickers not reliable (to ensure beam dilution after xx turns). Not clear when they will be able to fix operate the grids

# BTM - BSGs

- SEM BTM Issue during operation: **sometimes (on BTM 3 only) the pair channels deliver a different level of signal than the odd channels.** The tests made ensure that this issue is **not linked to the fact that there is 2 ADC** (2 wires over 3 are connected to the same ADC, it's not an even&odd pattern).
- even and odd wires are not soldered on the same face of the grid frame and the grid is just in front of the dump, there could be particles or EMI coming from the dump and measured by the wires facing the dump..? Is this the problem?

Ready for operation

# H0-H- and SF Monitors

- DAQ equipped with ferrites around signal cables, at rack side, to mitigate EMI --> installation to be completed next week
- adapter cards exchanged with new version. Resistance measured between signal and ground is now ~3.7kOhms (measured directly on the card, previously 1.906kOhms).
  - This is expected as circuits are separated. Ref document made by Jean Tassan on card's upgrade.
- Bias set to 1V on each channel (FESA property: setting), readout of ADC value (FESA property: HWAcquisition\_HCHANNEL) and with multi-meter.
- Check of linearity with some channels. No issue there. Noticed that H0A and H0B bias are controlled with value h00 in FESA, H-A and H-B with hm0.
- **Stripping foil:** Bias applied (FESA property: setting).
  - **R1 doesn't hold voltage** (bias ADC redout = ~ 96 counts whatever is the voltage applied), resistance measured from surface = 41 Ohms (3.8kOhms for the other rings).
  - Resistance measured directly on the vacuum connector = 0.5 Ohms (Infinity for the other rings). The conclusion is there is a short-circuit inside vacuum. Check of the bias readout with different loader position, the problem remains.

Ready for operation, will test DAQ with ferrites at startup

Agreed with ABT and OP to leave it like this