

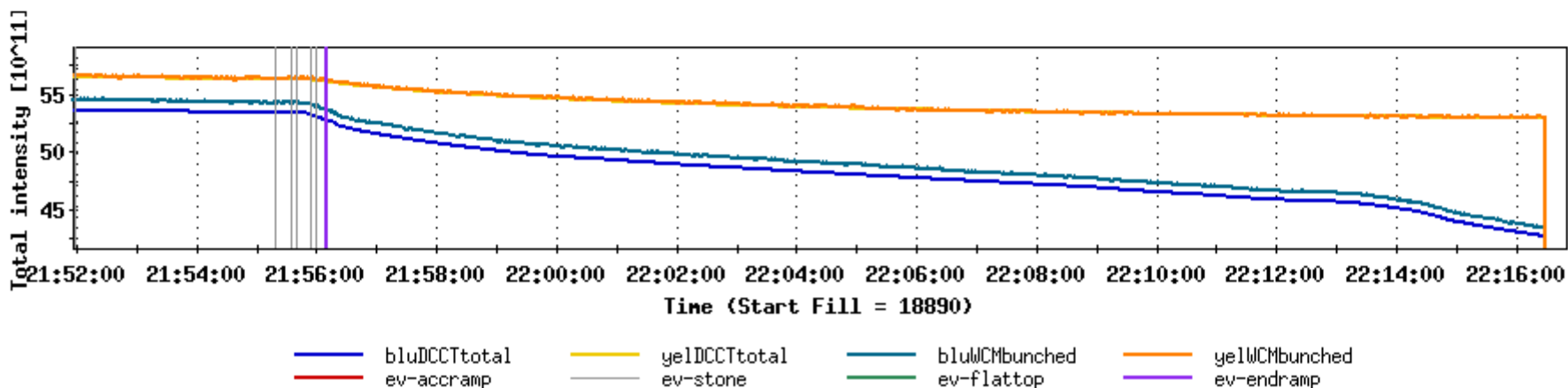
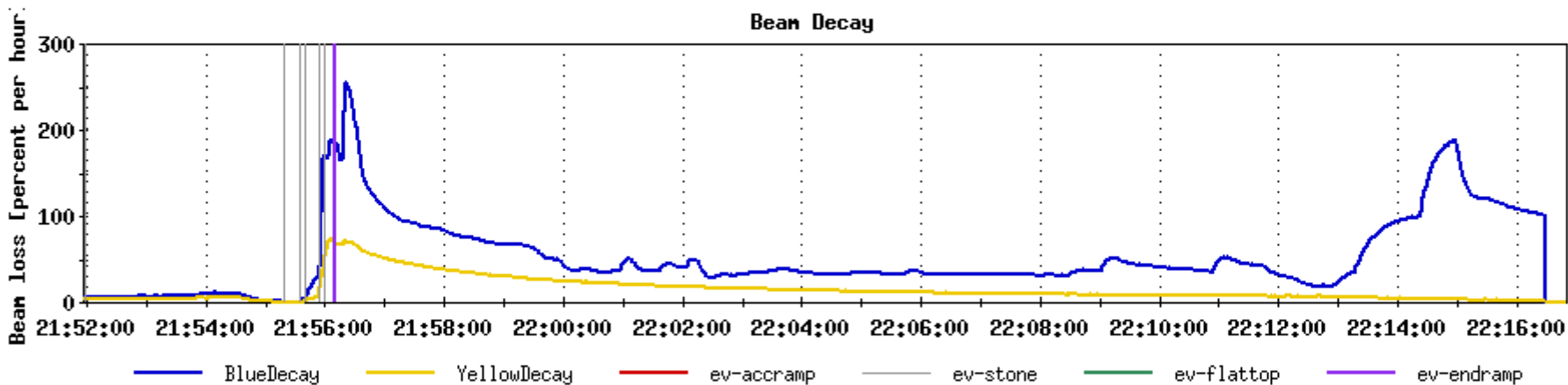
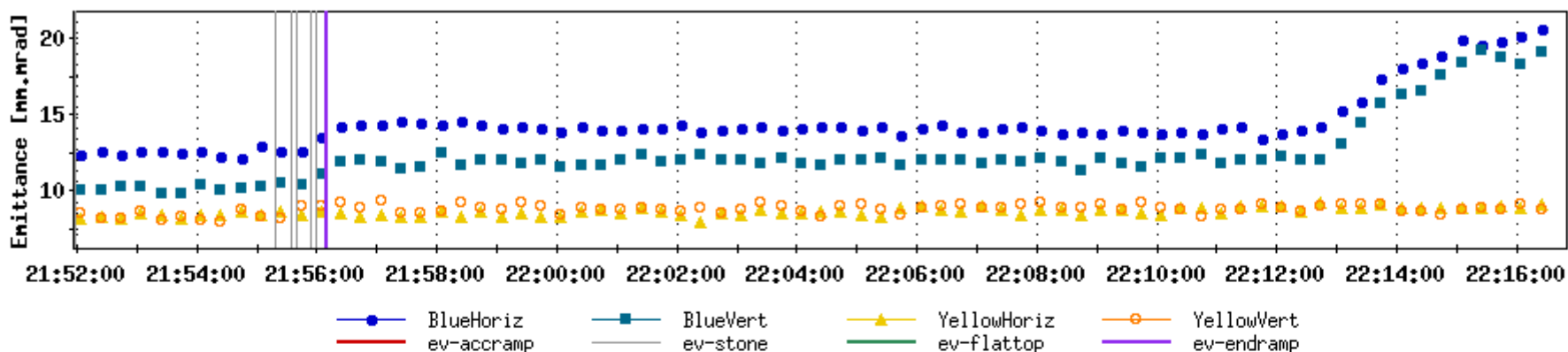
# **3Qy Resonance Stop-band Measurement**

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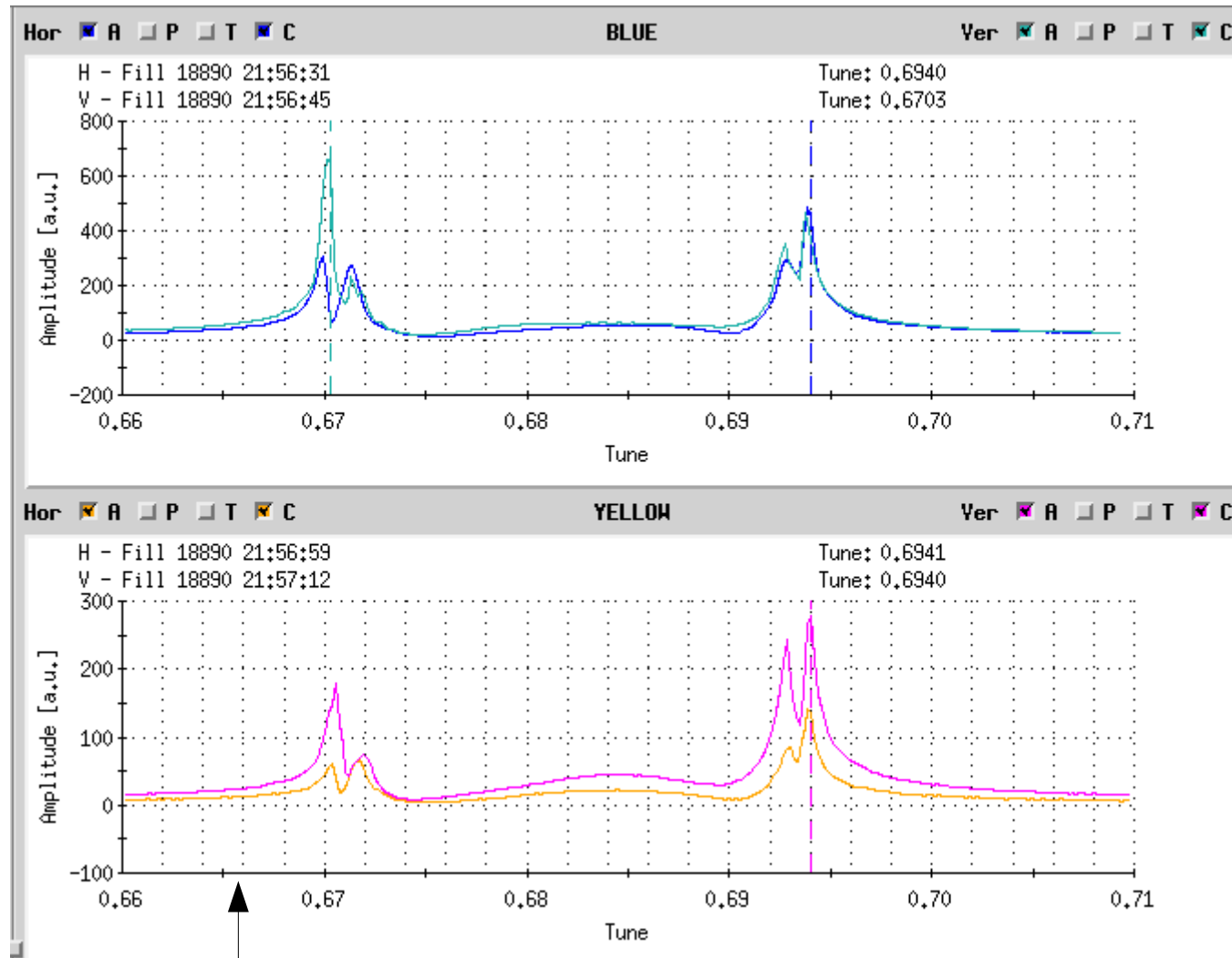
# First Ramp: 18890

- 30\*30 bunches, normal physics ramp
- Bunch intensity 1.9e11
- Electron current from e-lenses: 0mA
- Increased set tunes up 0.0035 at Colliding2/Store stones for both planes and both rings
- **Purpose:** pushing working point toward 7/10 and 2/3 to measure the resonance stop-bands



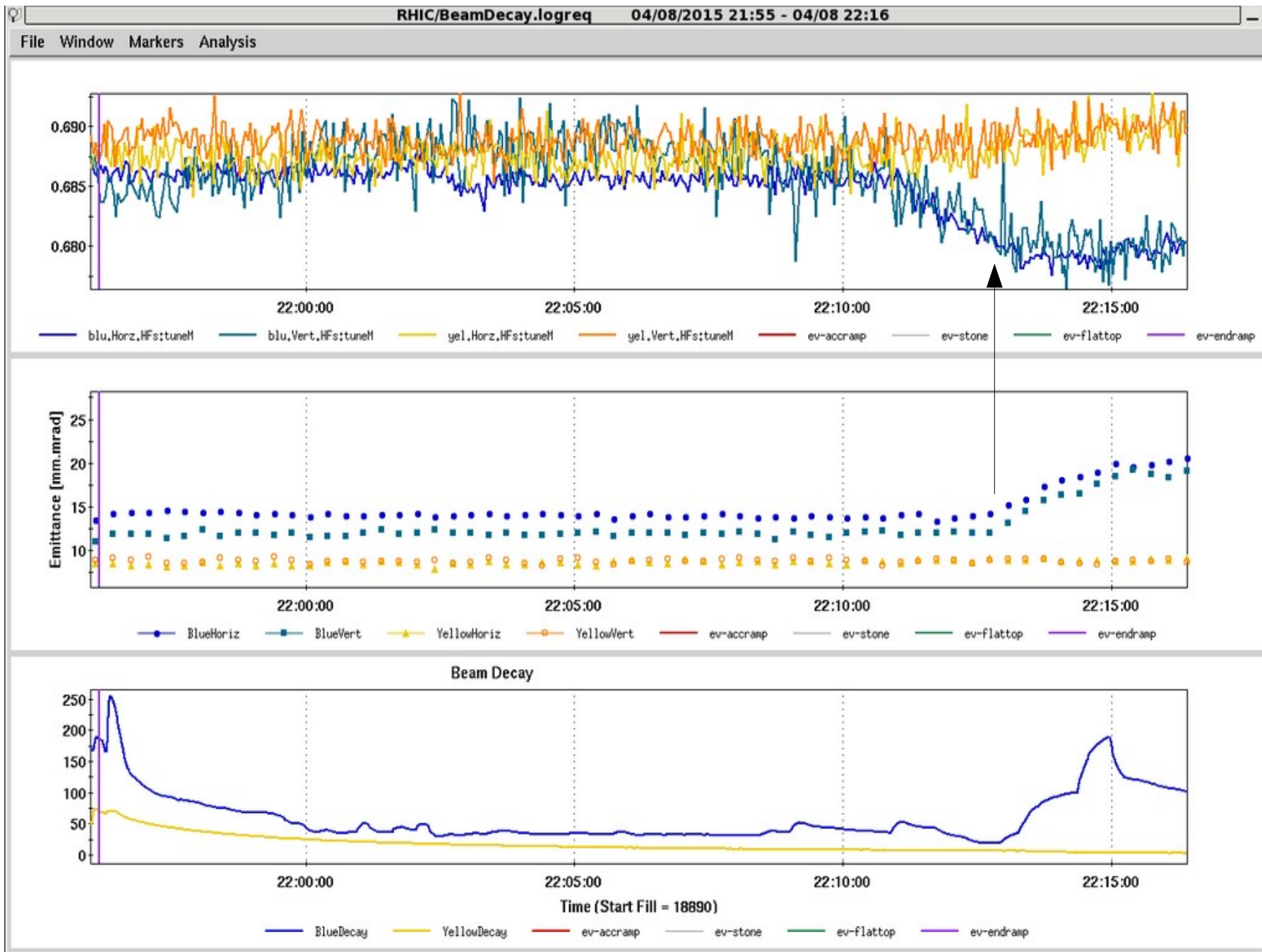
## BTF right after collision:

BB parameters from BTF with 1.2 Yokoya factor: **0.0183**



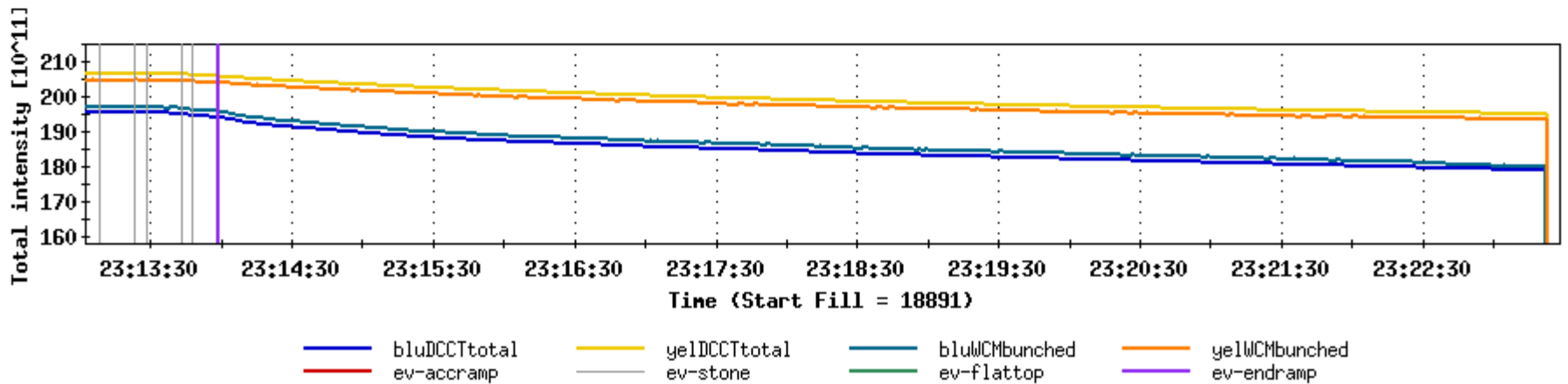
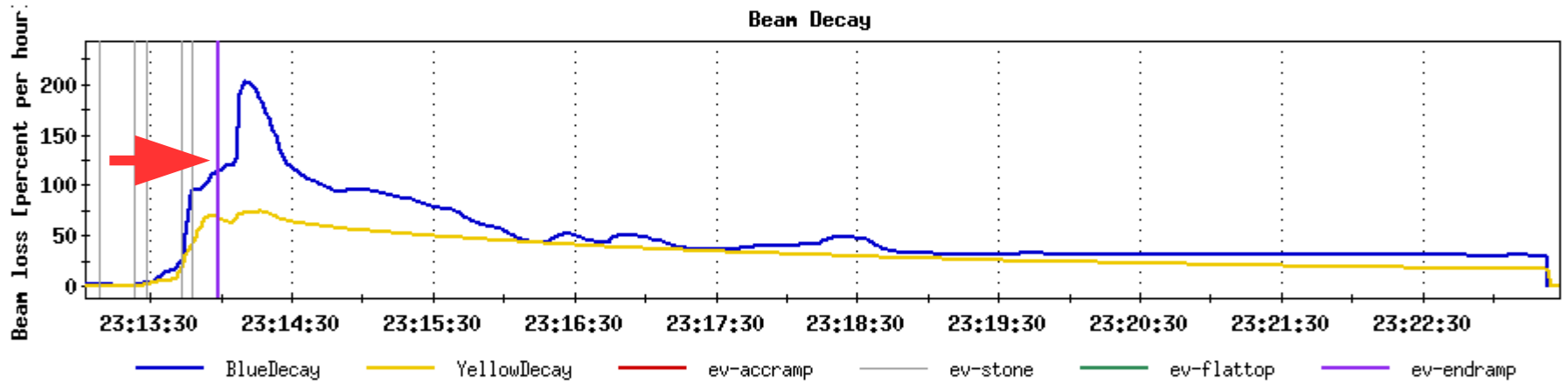
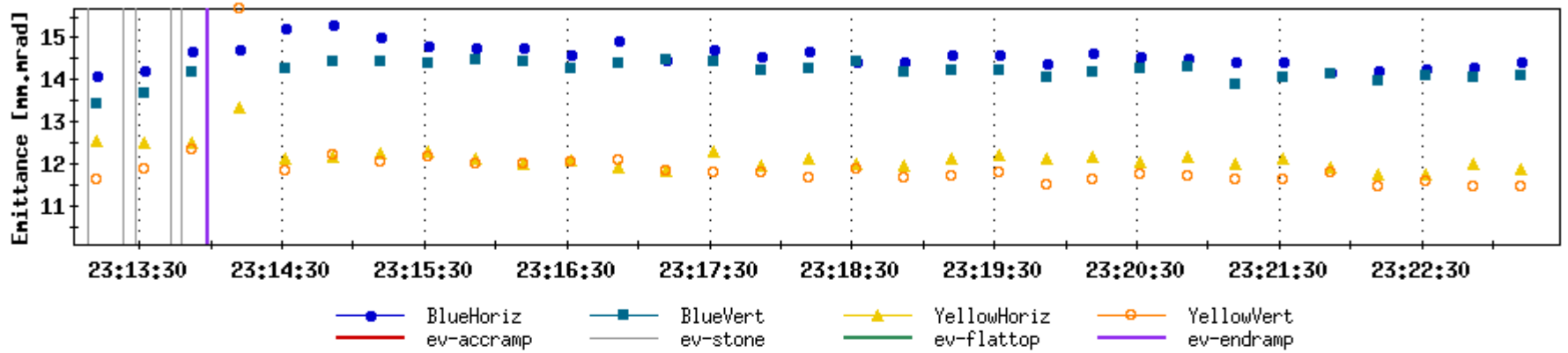
# Pushing Blue working point towards 2/3:

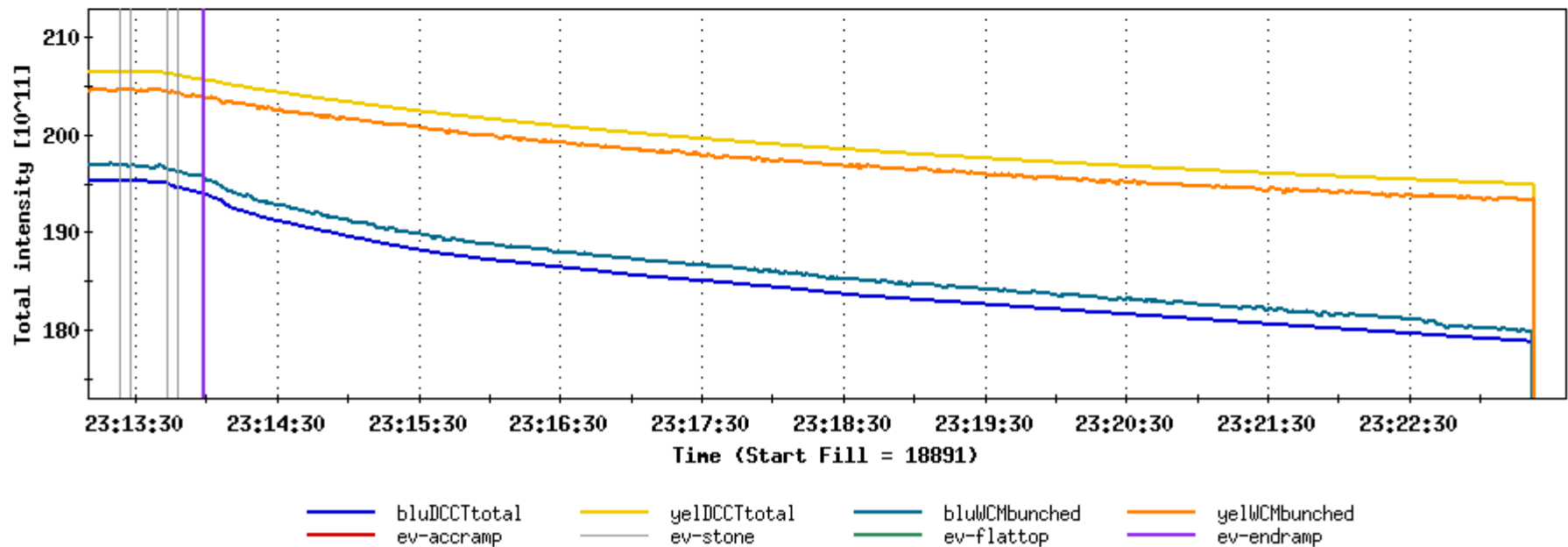
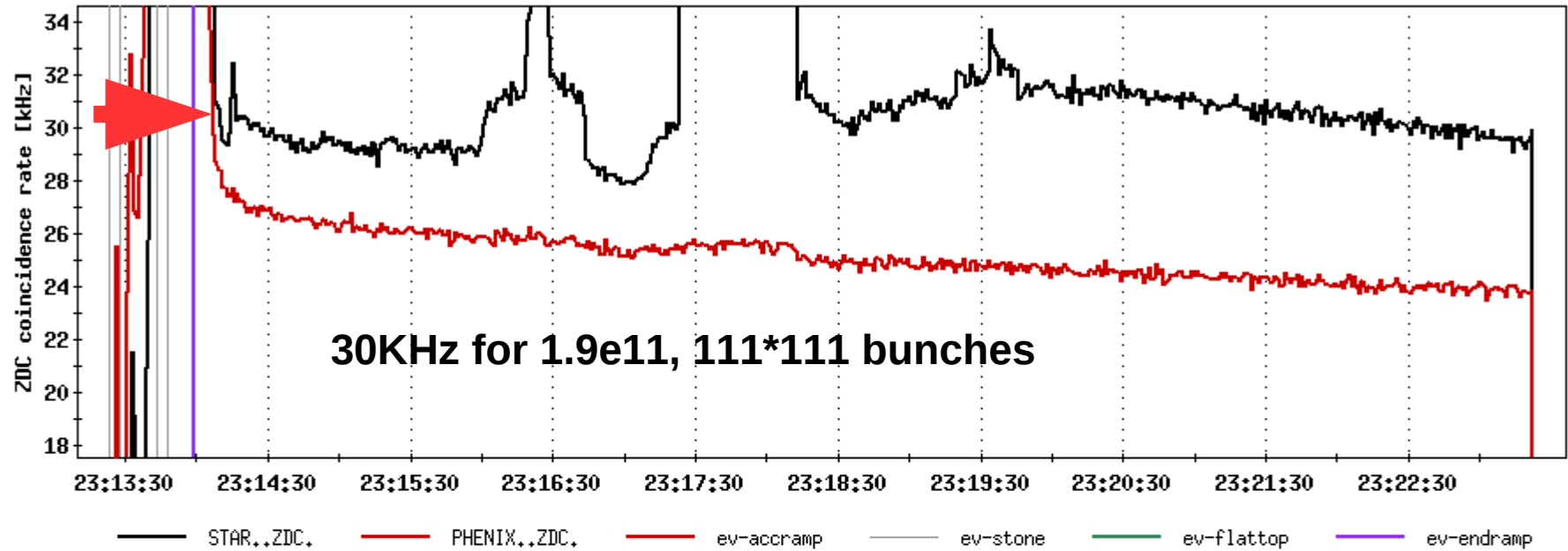
Blue beam lifetime and emittances suffered, couldn't push Pi mode to 2/3



# Second Ramp:18891

- Changed plan: originally 3Qy stop-band with e-lens
- 111\*111 bunches, normal physics ramp
- Bunch intensity 1.9e11
- Electron current from e-lenses: 0mA
- Increased set tunes up 0.0035 at Colliding2/Store stones for both planes and both rings
- Also reduce Blue Store stone Qx' by 2 units
- **Purpose:** measured beam loss and emittance growth with 1.9e11 without electron lenses.







# Summary & Plan

- Measure 3Qy resonance stop-band with BB

Beam loss and emittance growth were from 3Qy resonance, instead of Pi mode coherent motion.

- Test 111\*111 bunch collision without e-lenses. No large emittance blow-up observed. Polarization lifetime was not confirmed.

- Plan : 2-3 hours

**1st ramp:** 1.9e11 30\*30, Tune scan with e-lenses

**2nd ramp:** 2.3e11 111\*111 without e-lenses, monitor polarization change at store for 1 hour

**3<sup>rd</sup> ramp:** collision with unbalanced intensities in rings, say 1.9e11 in Yellow, 2.5e11 in Blue, same emittance both with e-lens currents.