

# RHIC status

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Time meeting

09/08/2020

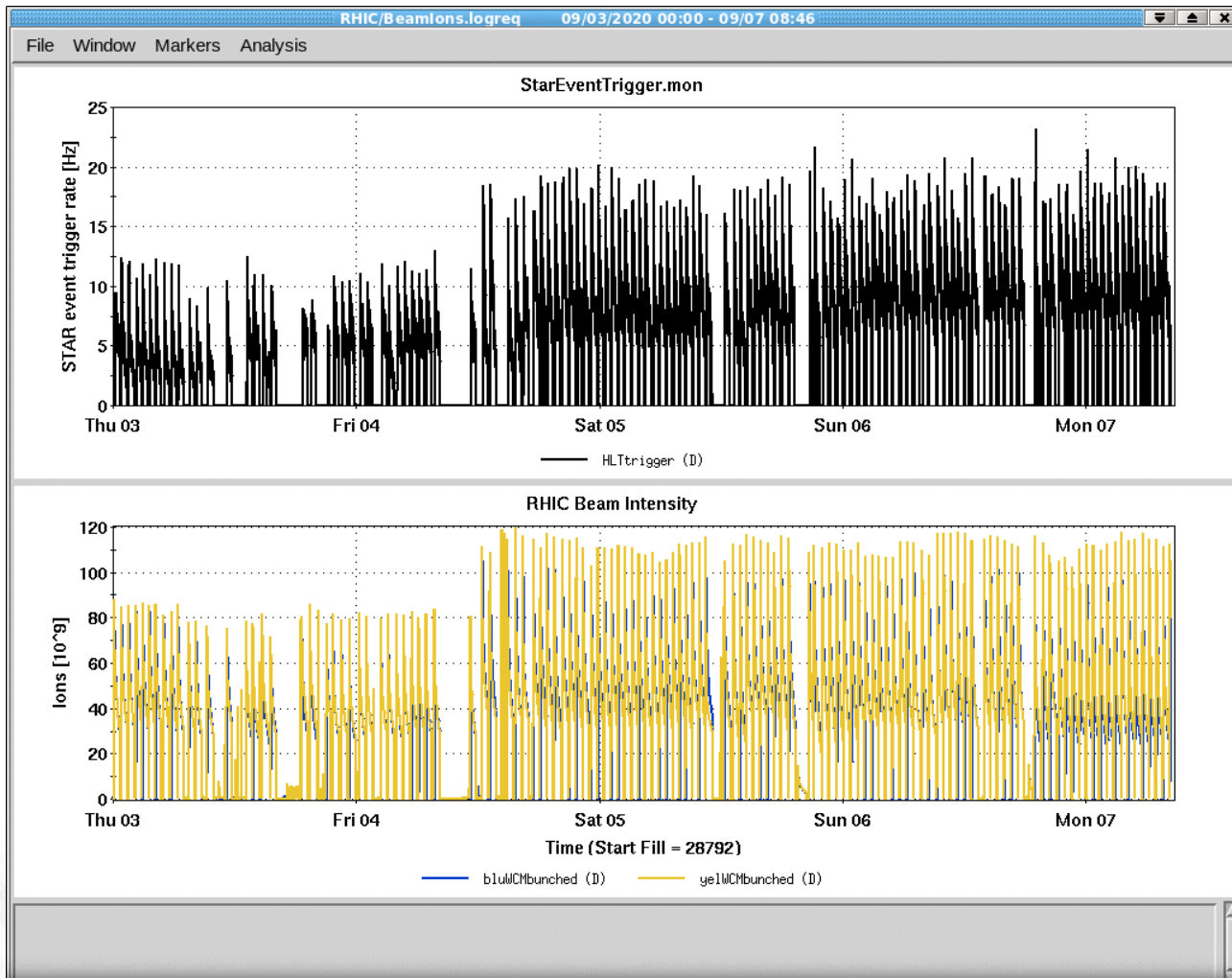
**BROOKHAVEN**  
NATIONAL LABORATORY



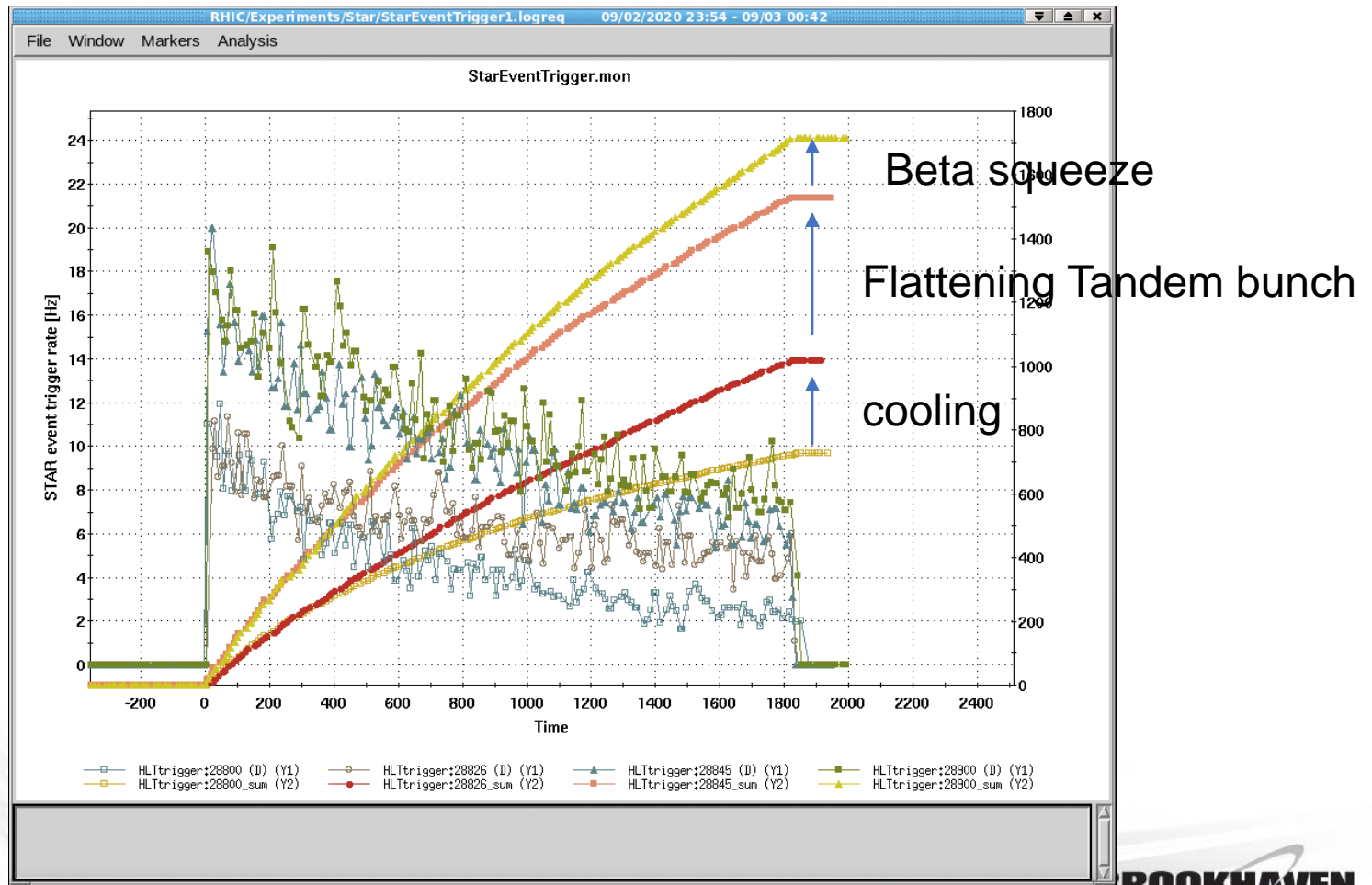
# RHIC status

- Test run at beam energy 3.85 GeV started on last Tuesday (09/01) and completed on this Monday (09/07), with Tandem as ion source and LEReC cooling.
- Significant progress (factor of  $\sim 3$  compared to 2019) at 3.85 GeV has been made with LEReC cooling, flattening Tandem bunches in RHIC and beta squeeze.
- RHIC switched to 48 hours of CeC dedicated time since Monday 9 am.

# RHIC stores at 3.85 GeV



# Improvement of collision rates



# Summary of tuning

- 9 MHz cavities at 180 kV. 28 MHz cavities with opposite phase for defocusing and focusing, at 110 kV and 50 kV.
- Cavity voltage scan (ramping down defocusing and ramping up focusing) did not make a significant difference.
- Transverse cooling efficiency was the best with voltage at constant.
- Beta squeeze bring down beta star from 4.5 to 3.5/3 m.

# Plan of the week

- CeC commissioning.
- LEReC HVPS test, scheduled on Wednesday.
- Exploring the lower tunes  $\sim 0.12$  at 3.85 GeV with Tandem beam.
- LEReC cooling test with lower tunes if it works.
- Test any idea to make beam lifetime better at 3.85 GeV, for example lowering 9 MHz cavity voltage.