

# Low Energy RHIC electron Cooling (LEReC)

RHIC Time Meeting

March 17, 2020

**BROOKHAVEN**  
NATIONAL LABORATORY

 U.S. DEPARTMENT OF  
**ENERGY**

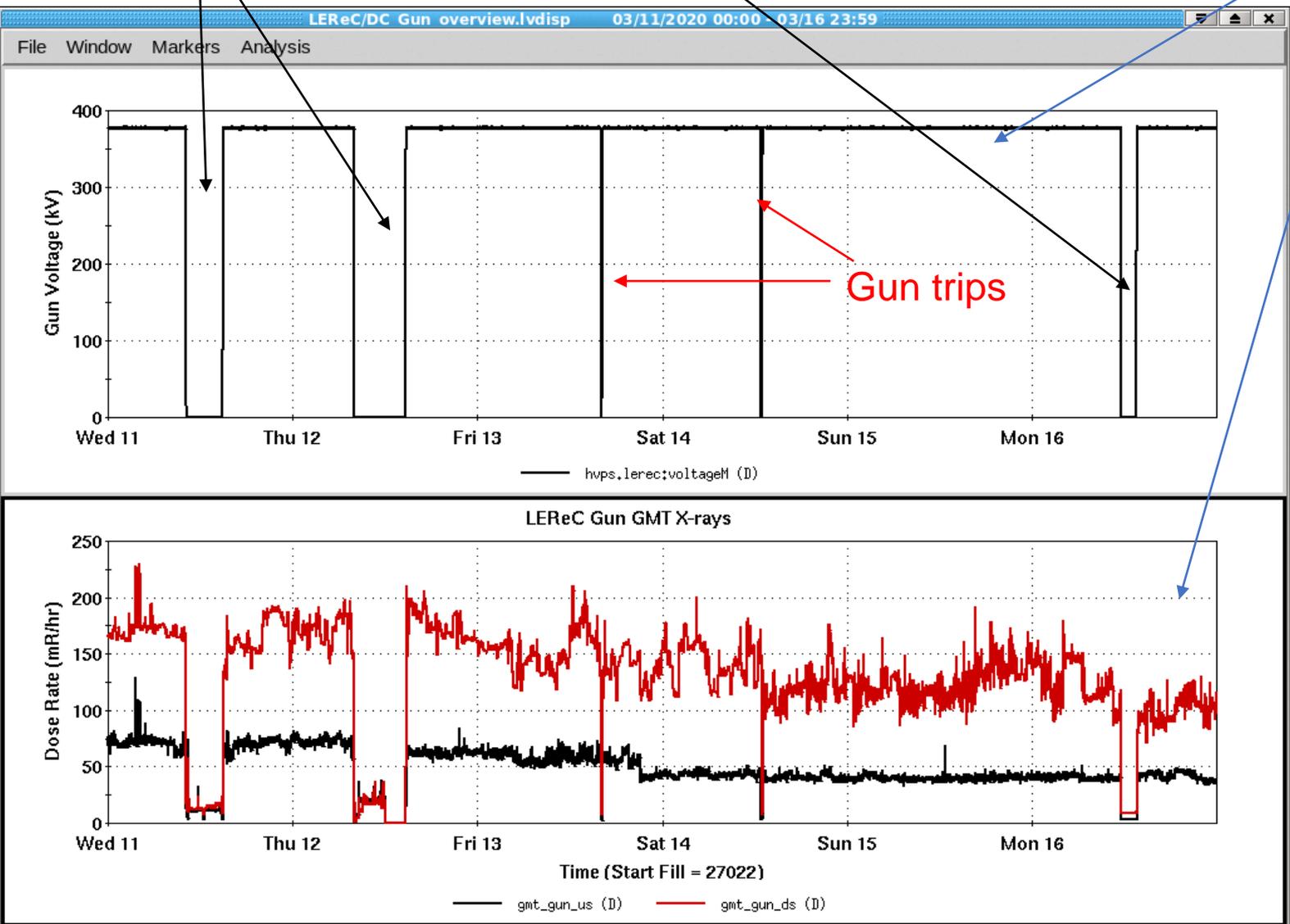
# LEReC progress/updates

- **LEReC is in operation for Physics at 4.6 GeV since 2/24:**
  - Established stable cooling of ion beam
  - Stable running of high-current electron accelerator
  - LEReC is now fully operational and is being run by MCR
  
- Following laser work on March 11 (60W amplifier was replaced and aligned with the Main amplifier) stable operation was established.
- Following some other activities last week in IP2 there were elevated radiation levels on Gun last week, Gun tripped twice but was recovered without problems. Since then gun operation was stable. At this point, we do not plan to stop operation for gun reconditioning.
- We are still operating with the cathode which was put in on February 24. Cathodes will be exchanged this week.

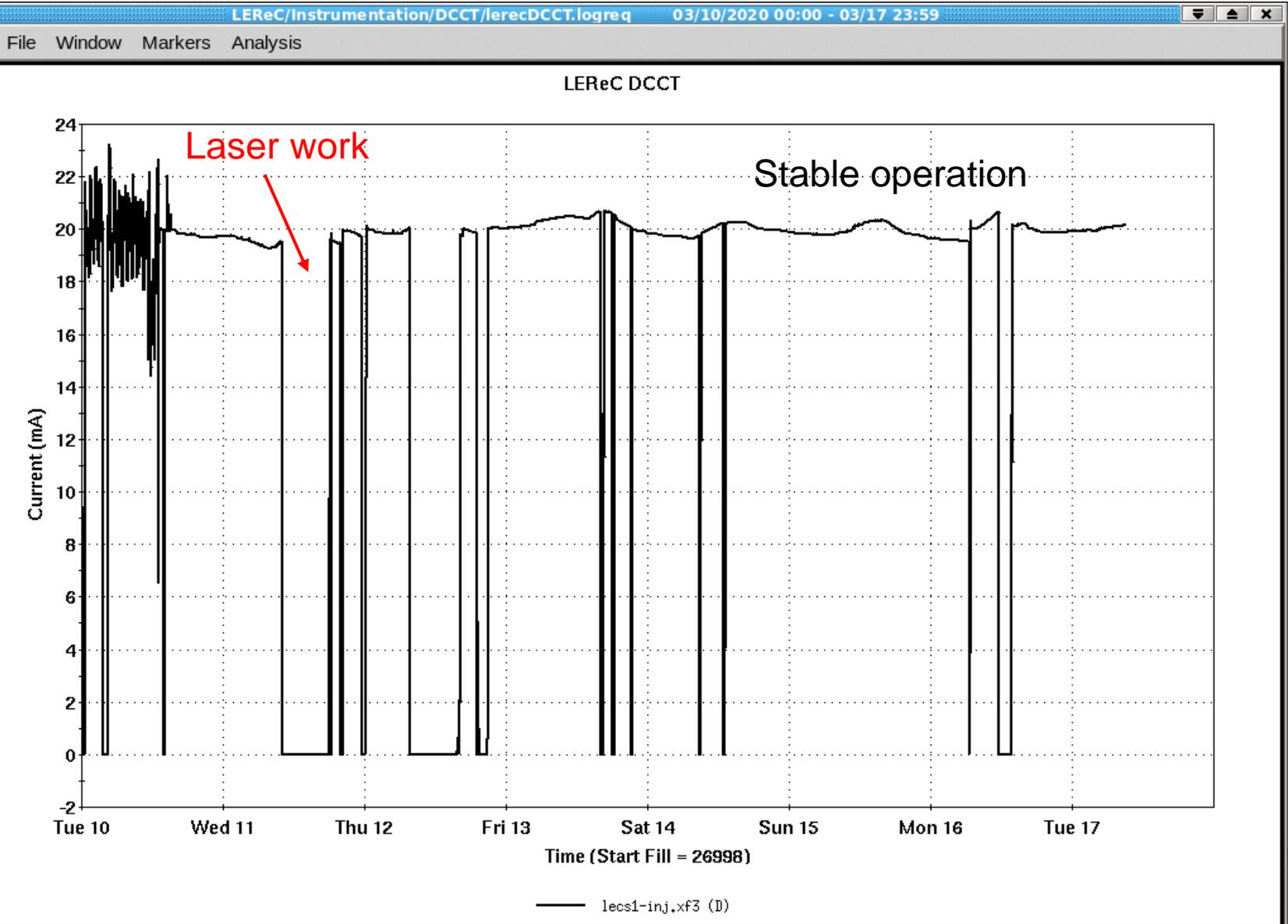
# LEReC gun operation

CeC and Machine development time

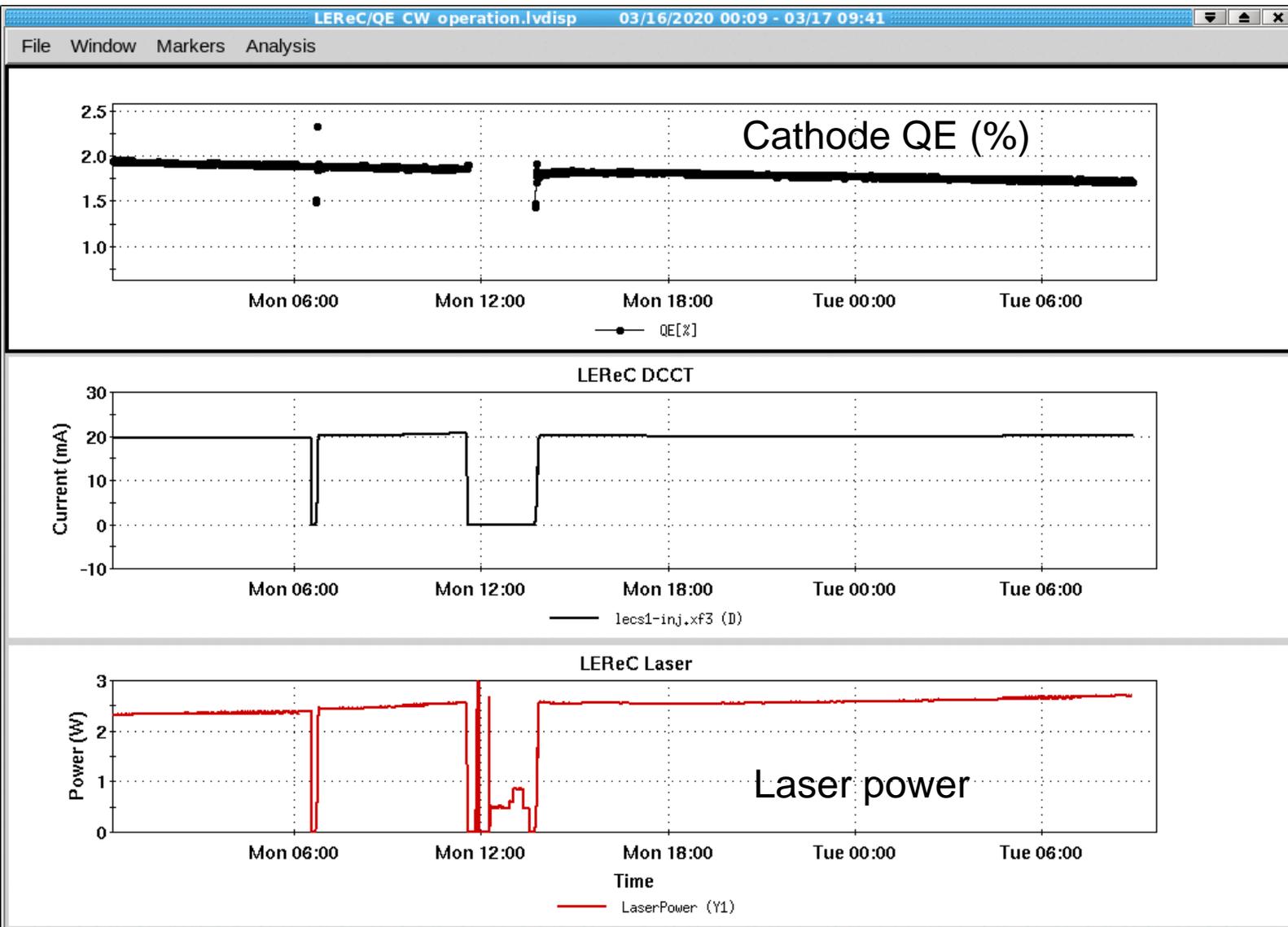
Stable operation



# LEReC operation



# Cathode – QE is getting low, will need cathode exchange this week



# LEReC status and plans

- Cooling of ion beam is consistent and does not require special efforts
- Stable operation of high-current electron accelerator established
- LEReC is fully operated by MCR

## Plans:

- Support LEReC running by MCR
- Cathode exchange this week
- No plans to start dedicated shifts to work on cooling at 3.85 GeV at least until first week of April (this is to: a) limit access of people to MCR and b) to provide stable operation of accelerator at fixed energy)