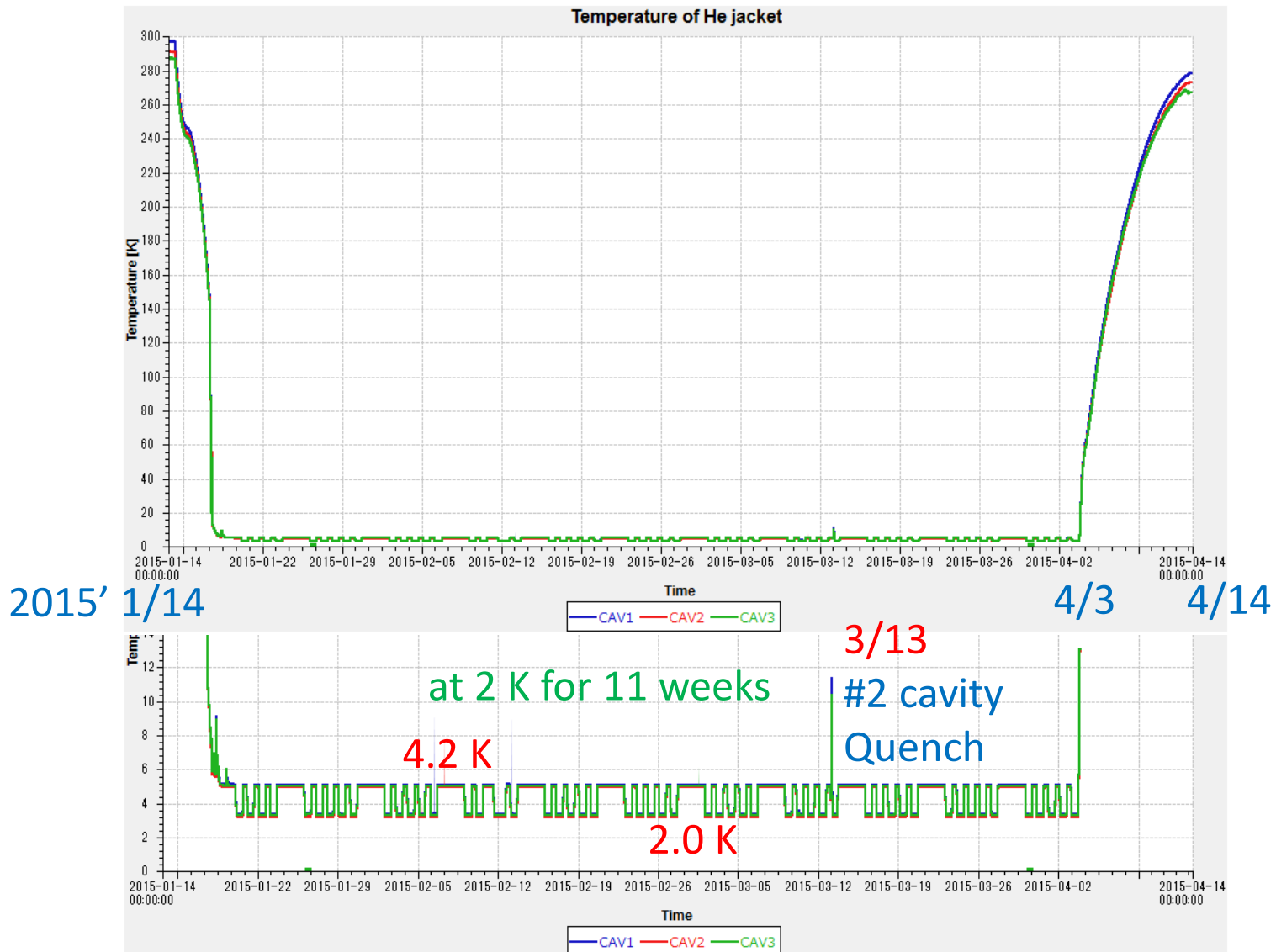
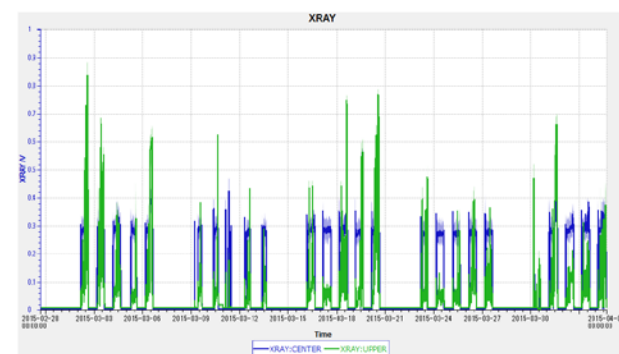
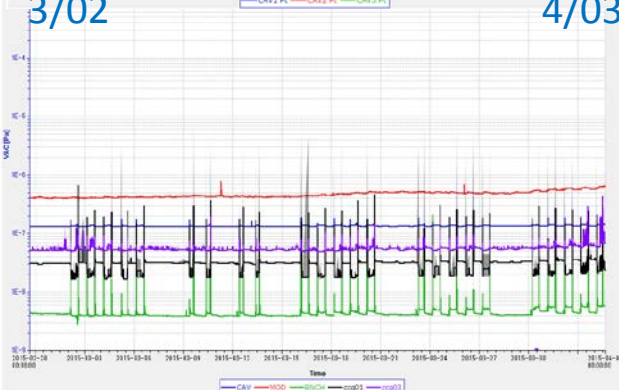
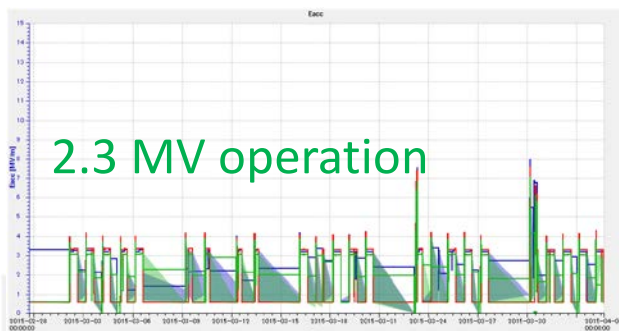
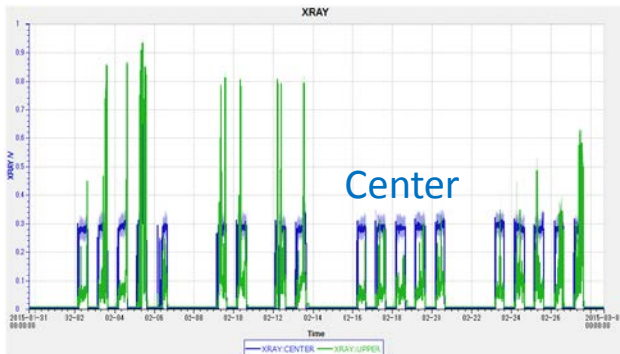
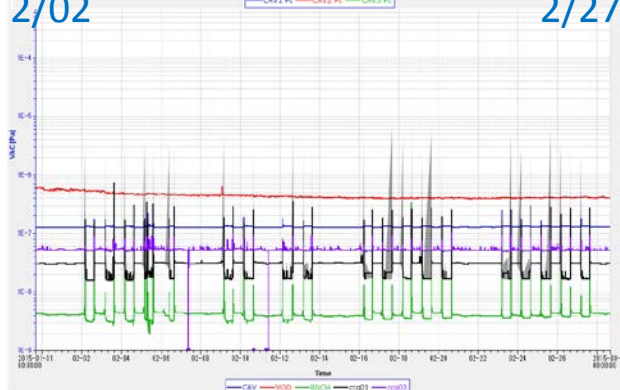
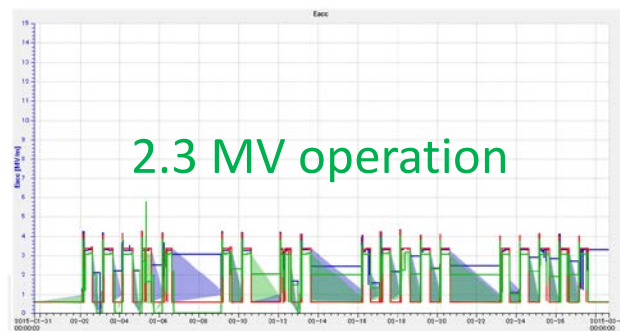
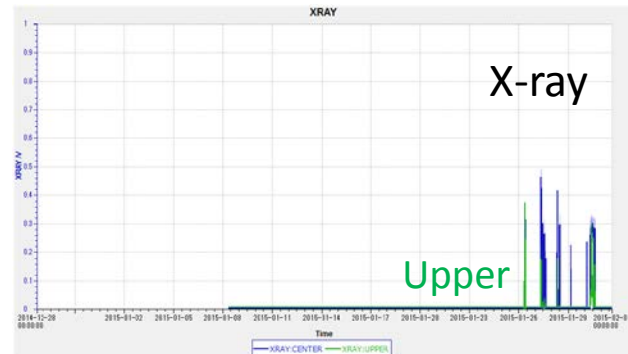
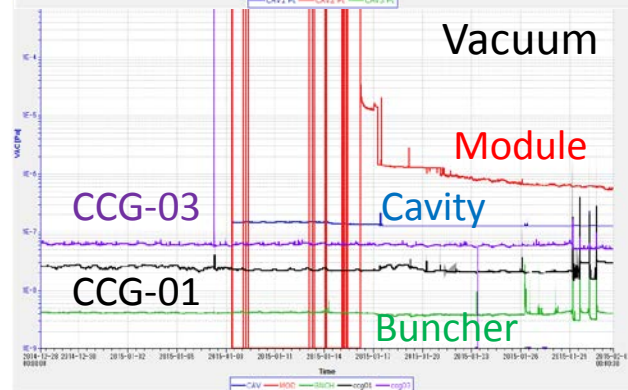
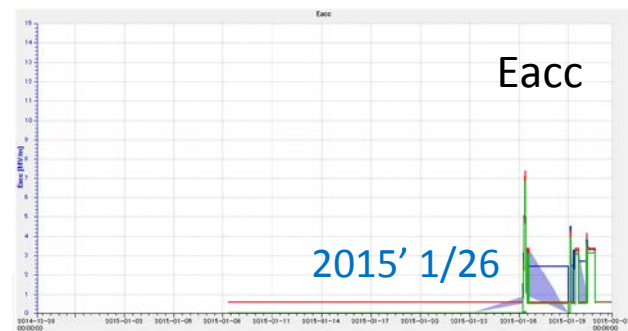

Operational Status of cERL Injector Cryomodule

E. Kako (KEK) and H. Yamada (NAT)

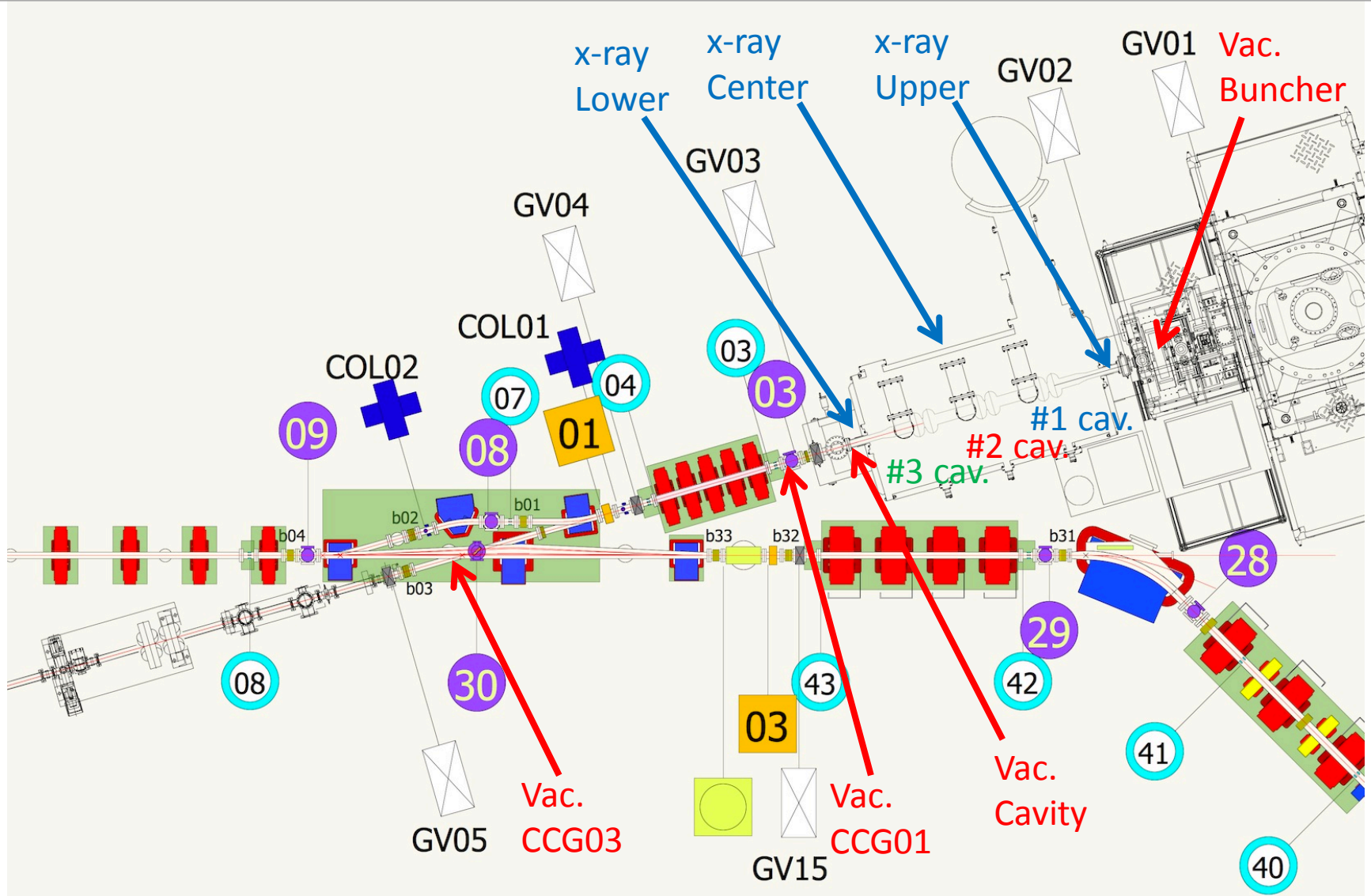
Cool-down cycle (2015, Jan. – Apr.)



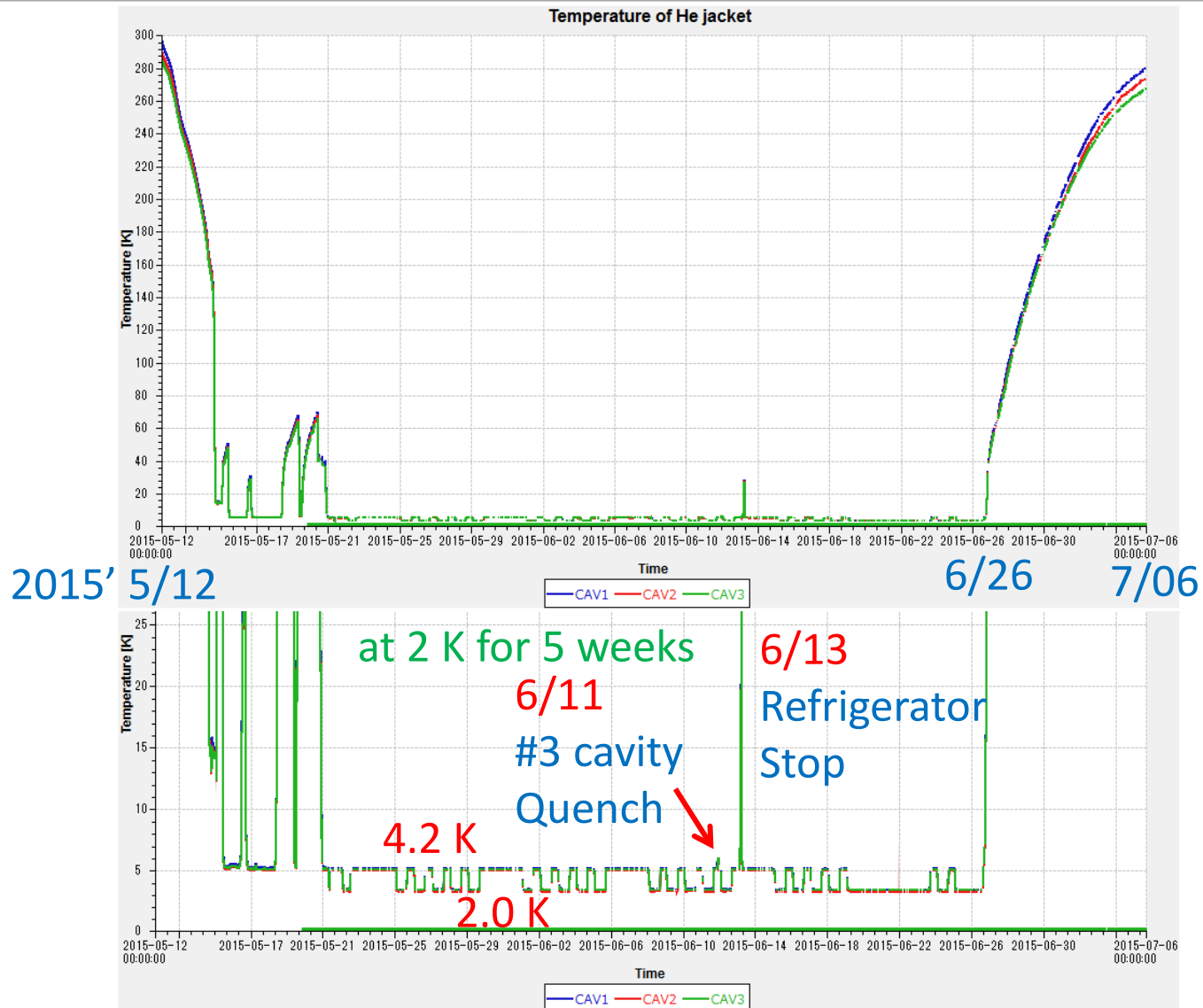
Cool-down cycle (2015, Jan. – Apr.) : Eacc, Vac., X-ray



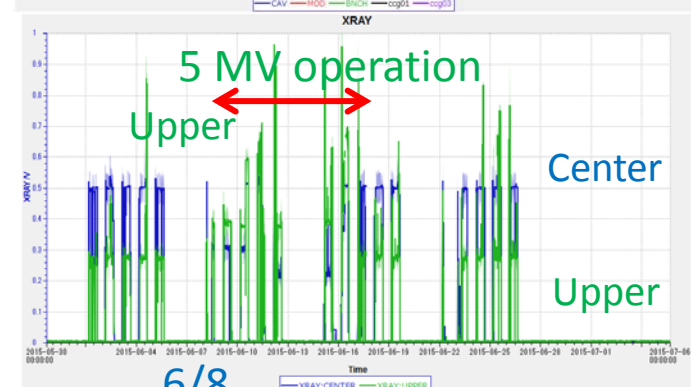
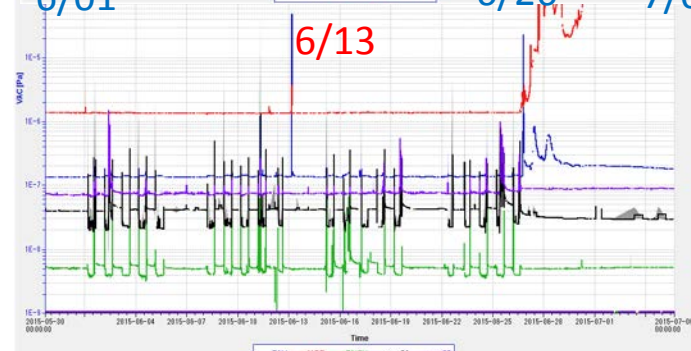
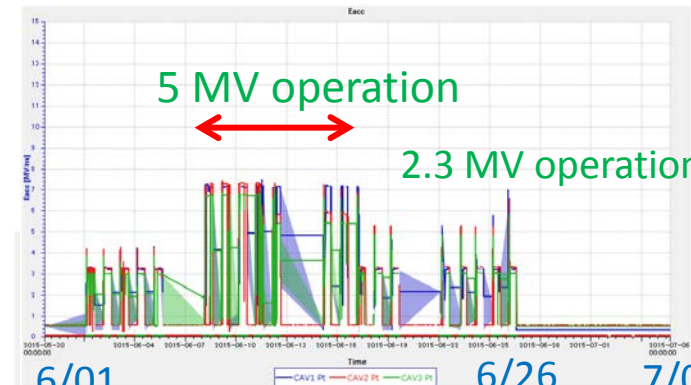
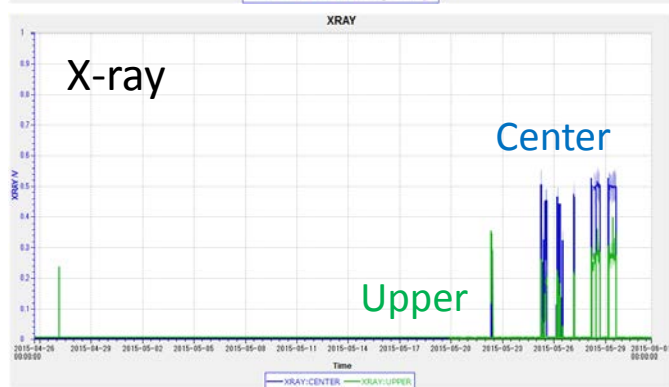
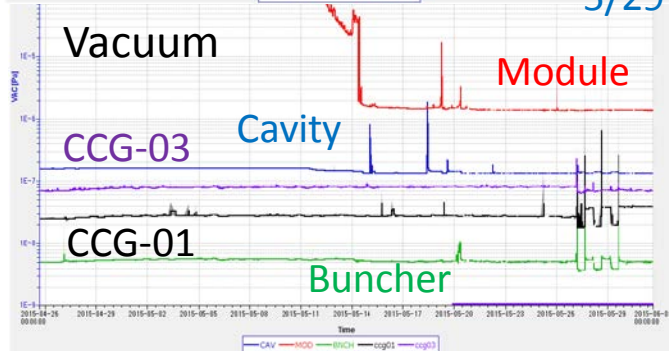
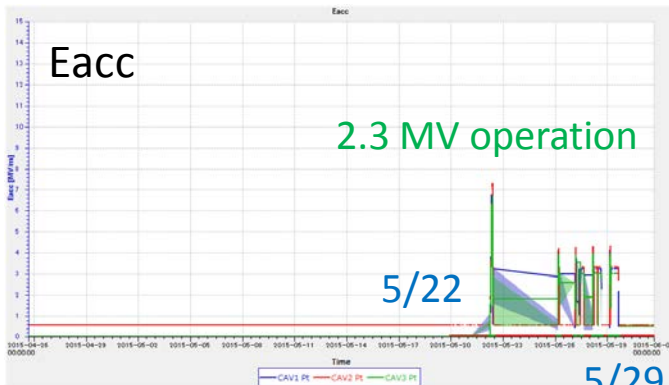
Location of X-ray sensors and Vacuum gauges



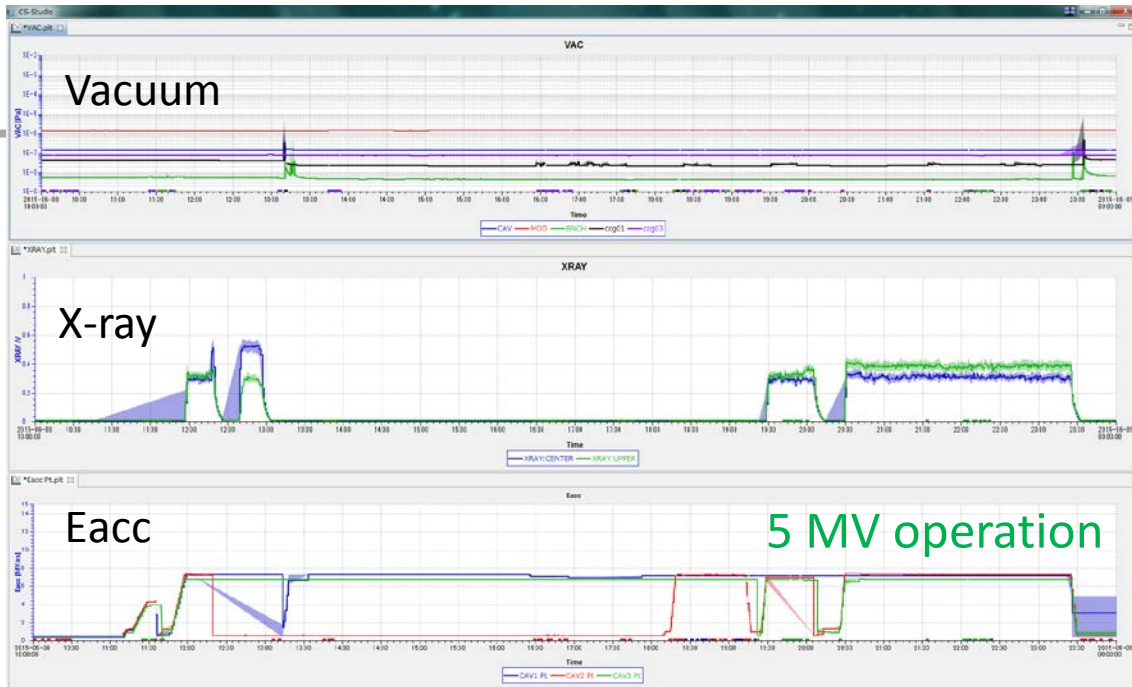
Cool-down cycle (2015, May – July)



Cool-down cycle (2015, May – June) : Eacc, Vac., X-ray



6/08 (Mon)



Module
Cavity

CCG-03
CCG-01
Buncher

Upper
Center

5 MV operation

6/09 (Tue)



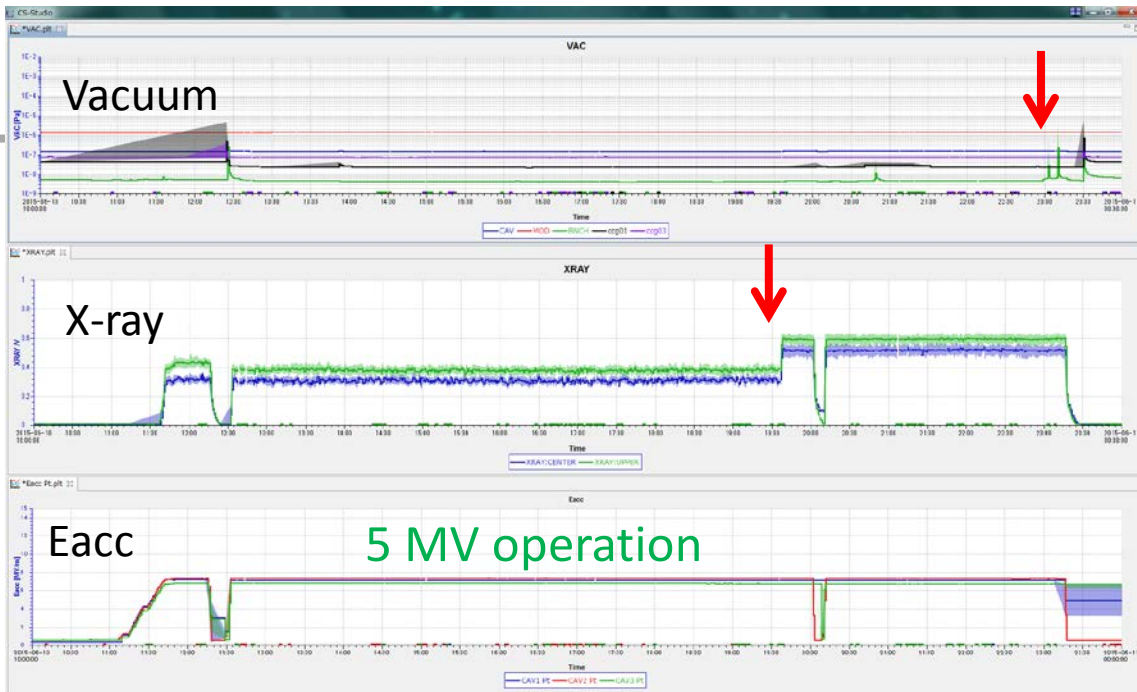
Module
Cavity

CCG-03
CCG-01
Buncher

Upper
Center

5 MV operation

6/10 (Wed)

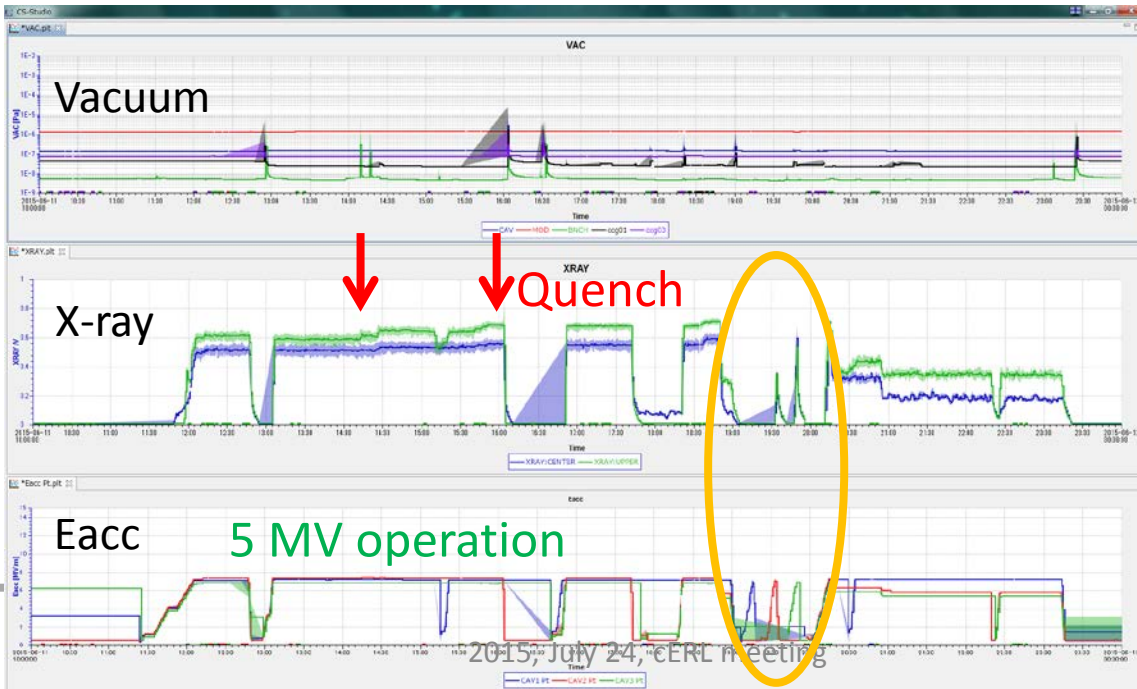


Module
Cavity

CCG-03
CCG-01
Buncher

Upper
Center

6/11 (Thu)

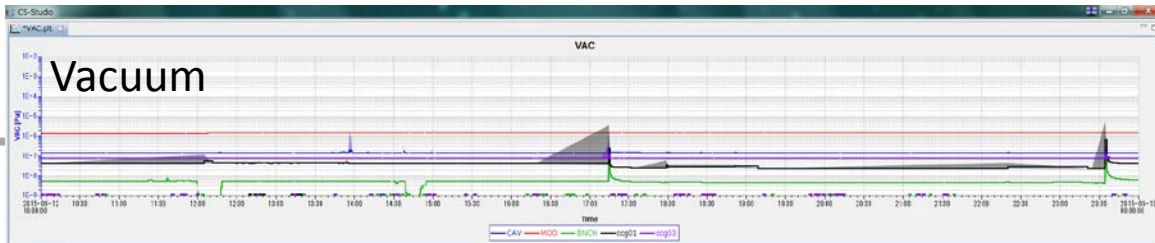


Module
Cavity

CCG-03
CCG-01
Buncher

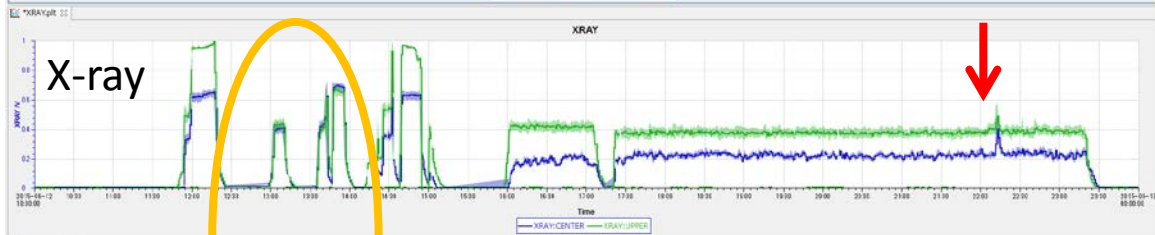
Upper
Center

6/12 (Fri)



Module
Cavity

CCG-03
CCG-01
Buncher

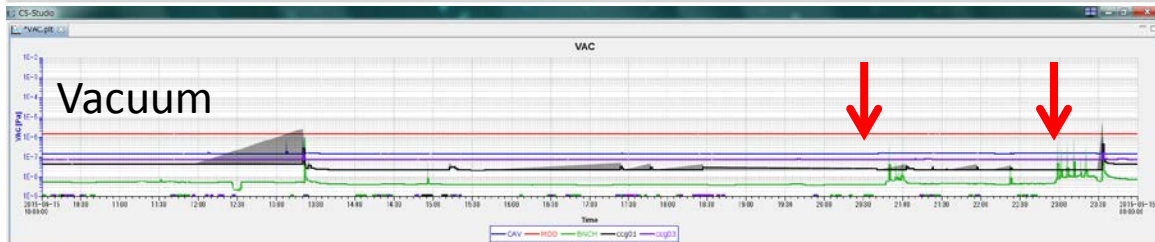


Upper
Center

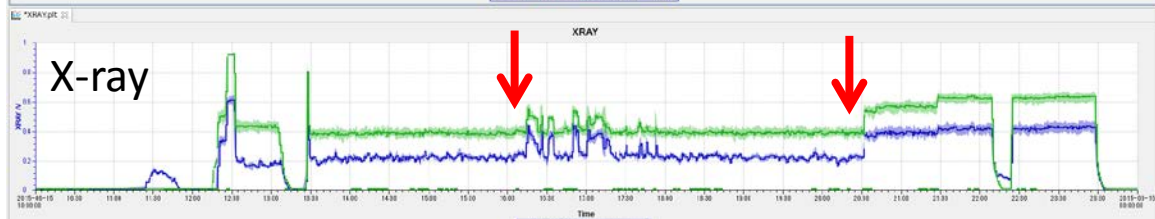


4 MV operation

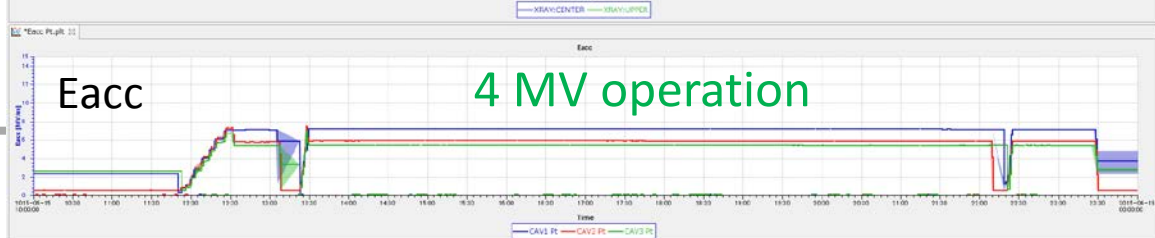
6/15 (Mon)



Module
Cavity
CCG-03
CCG-01
Buncher

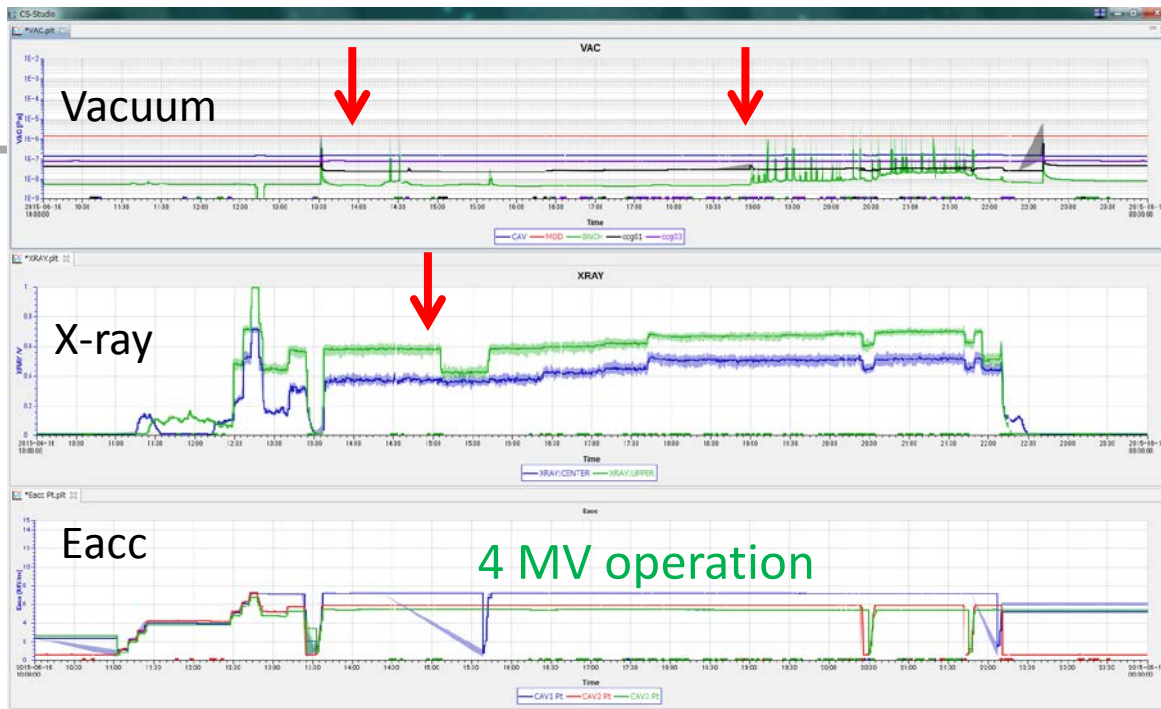


Upper
Center



4 MV operation

6/16 (Tue)

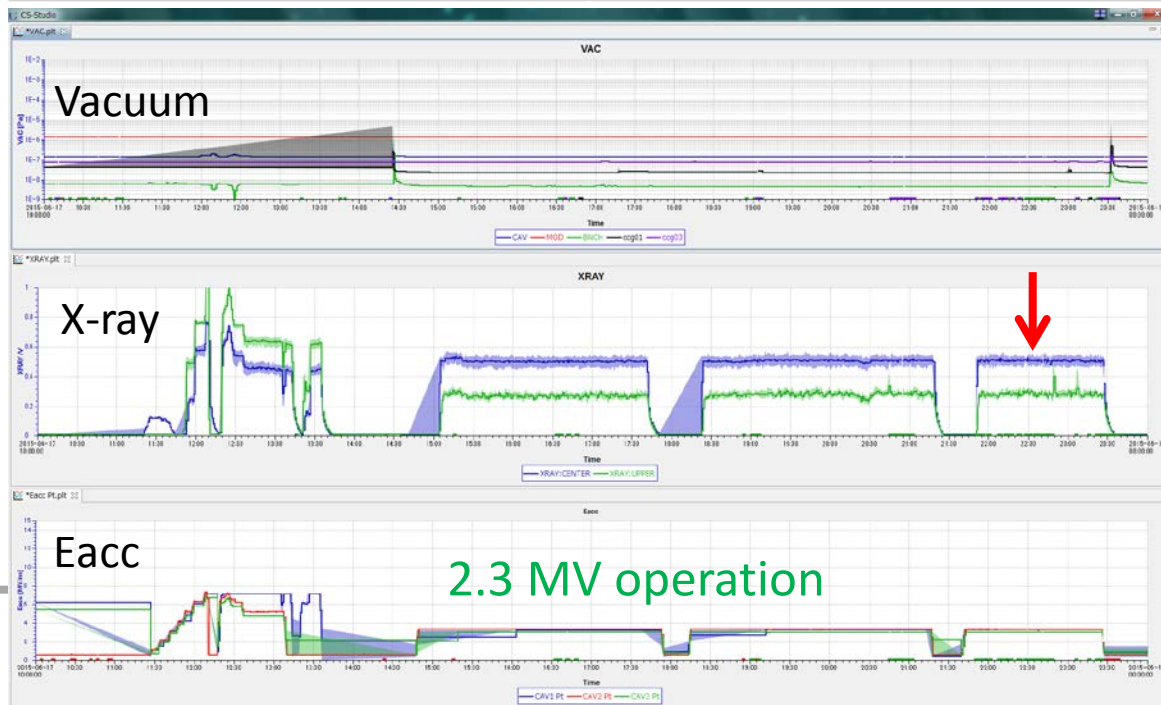


Module
Cavity

CCG-03
CCG-01
Buncher

Upper
Center

6/17 (Wed)

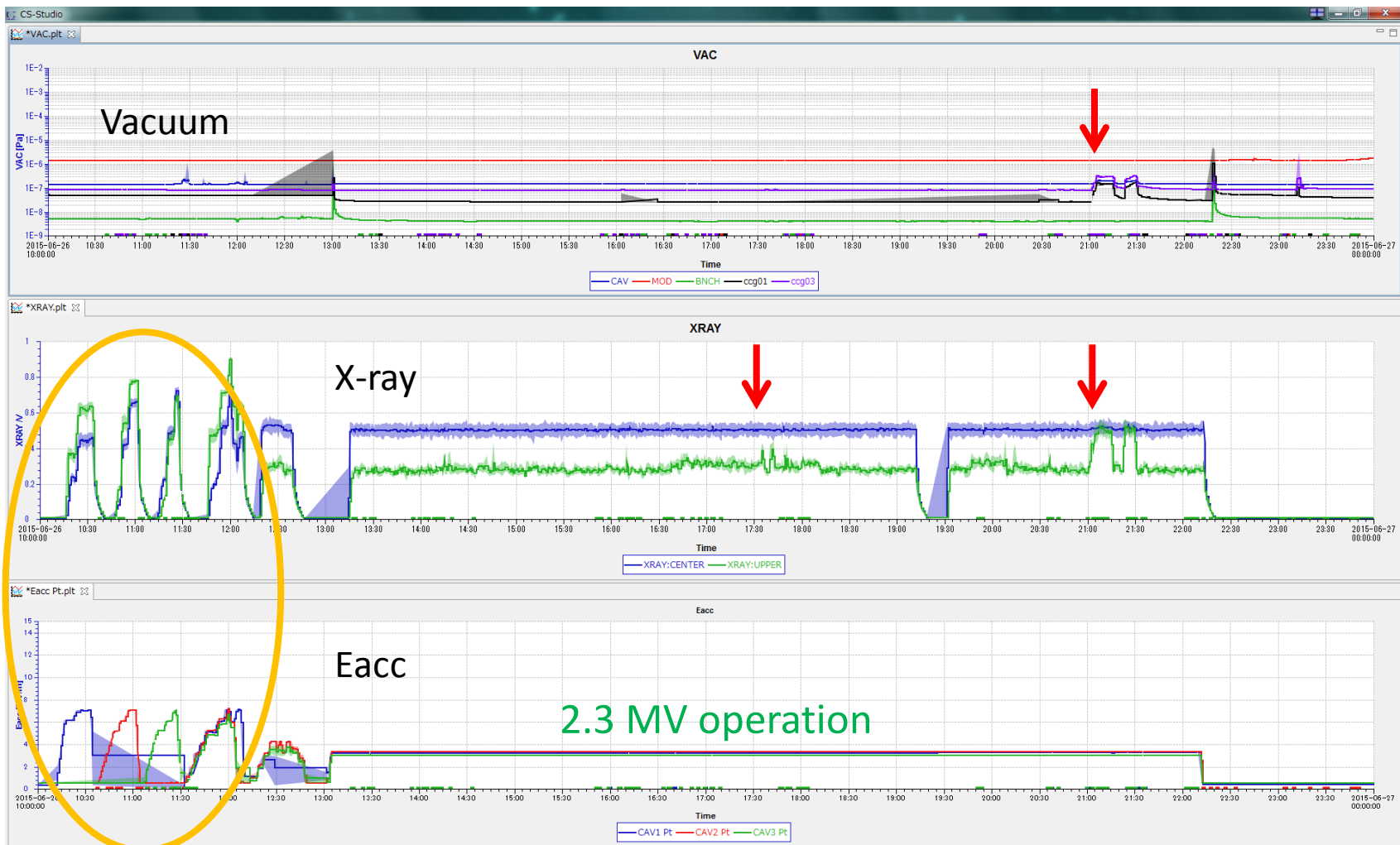


Module
Cavity

CCG-03
CCG-01
Buncher

Upper
Center

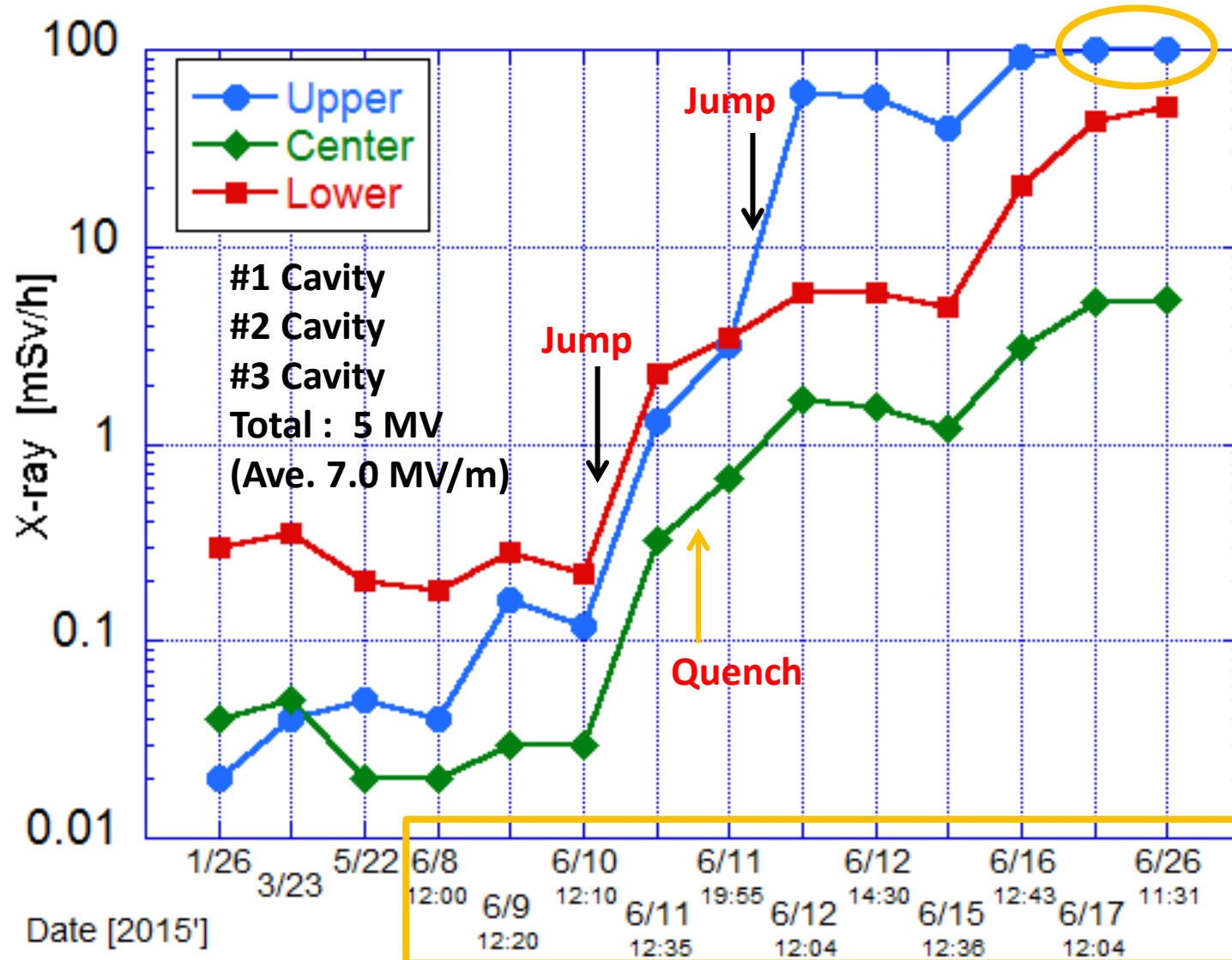
6/26 (Fri)



Module
Cavity
CCG-03
CCG-01
Buncher

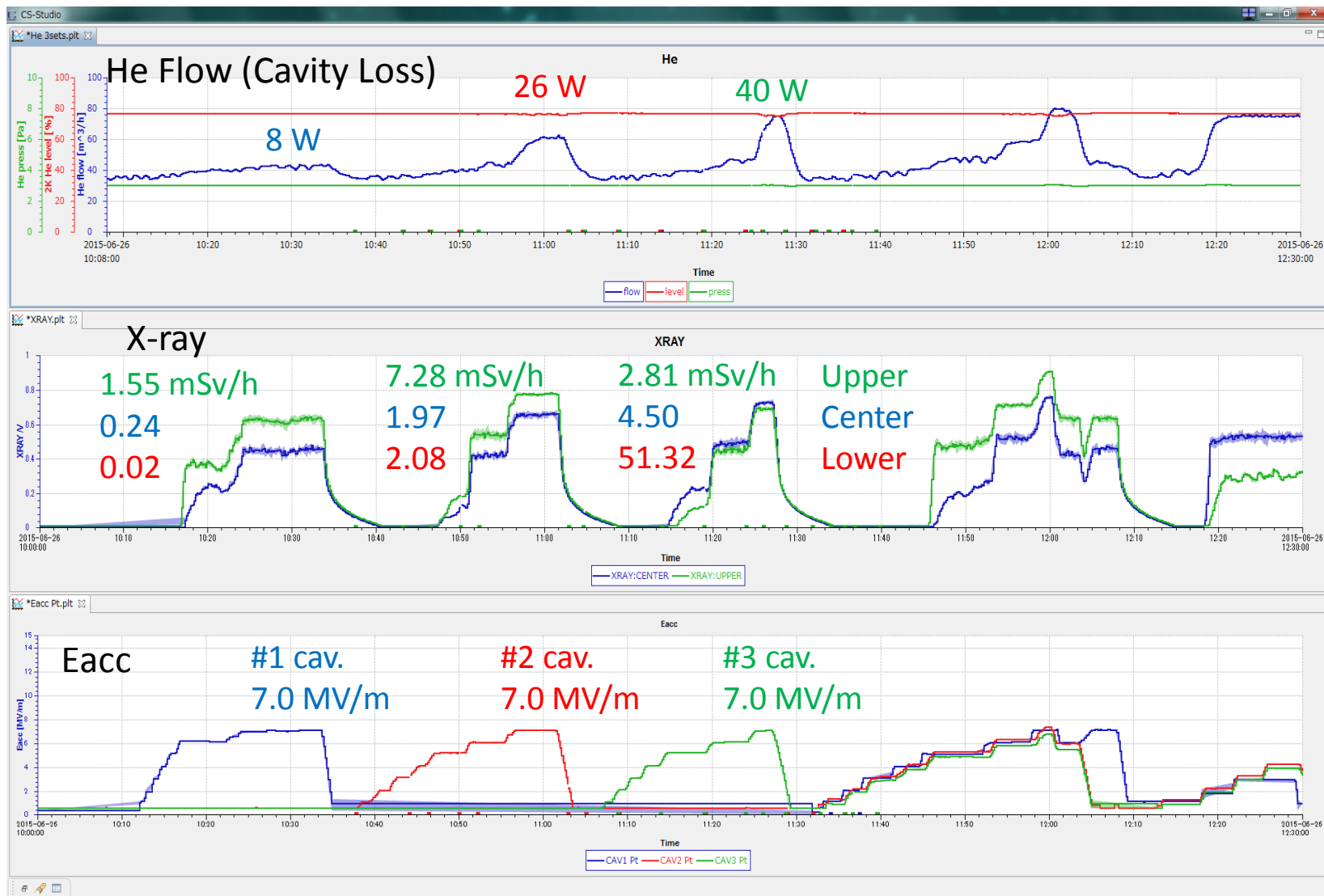
Upper
Center

X-ray radiation level at 5 MV operation



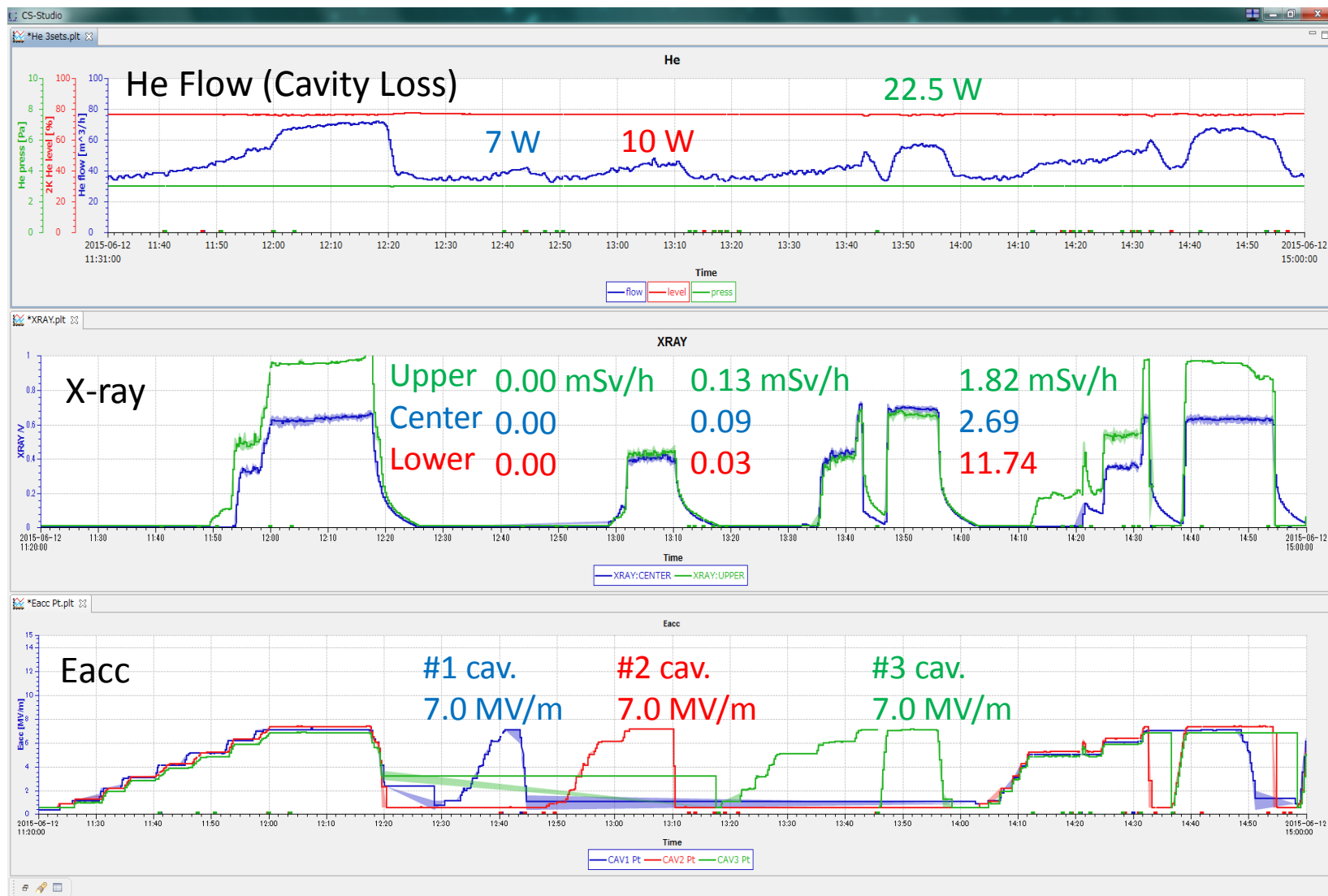
He flow, X-ray, Eacc : (2015' June 26, Fri)

6/26
(Fri)



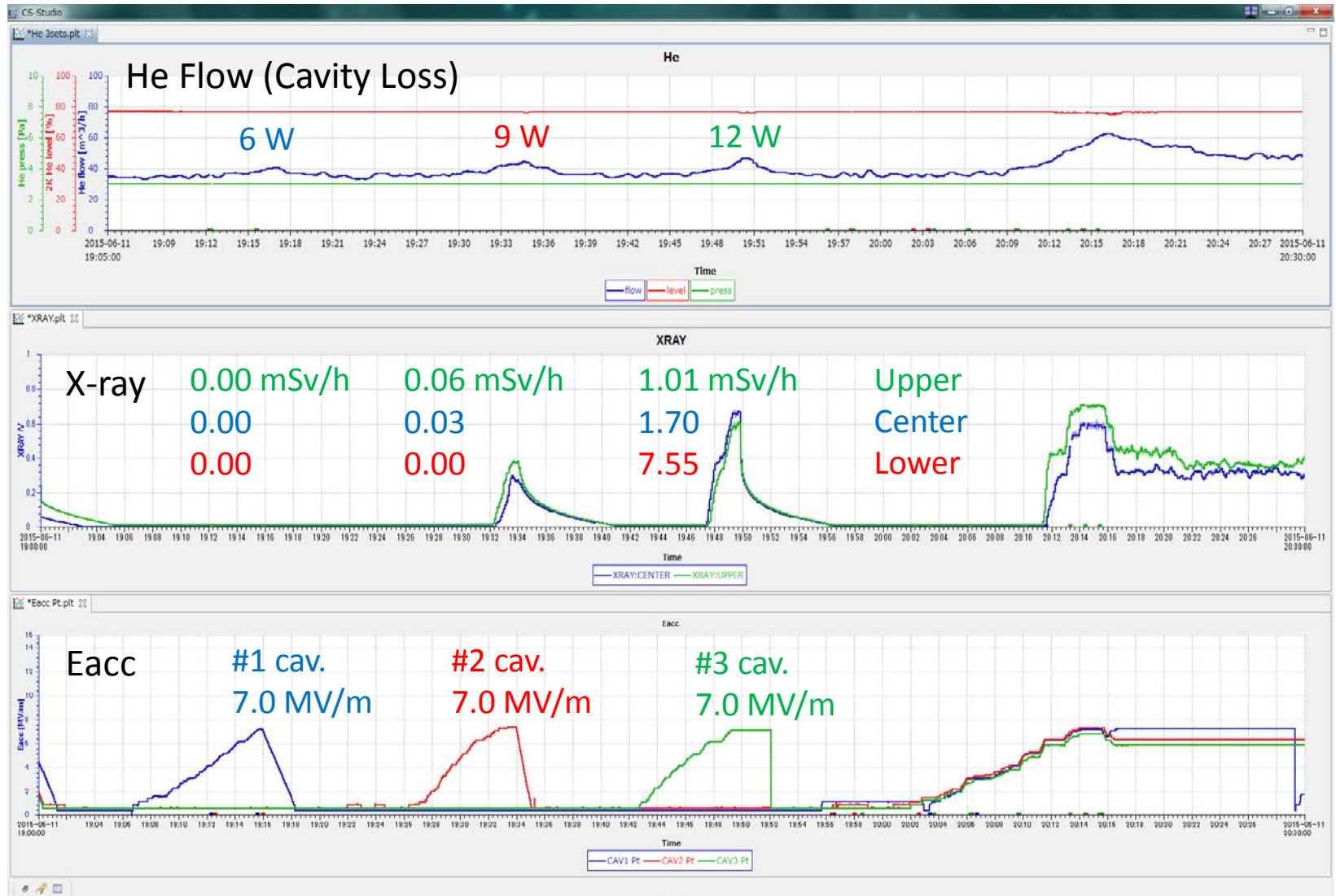
He flow, X-ray, Eacc : (2015' June 12, Fri)

6/12
(Fri)

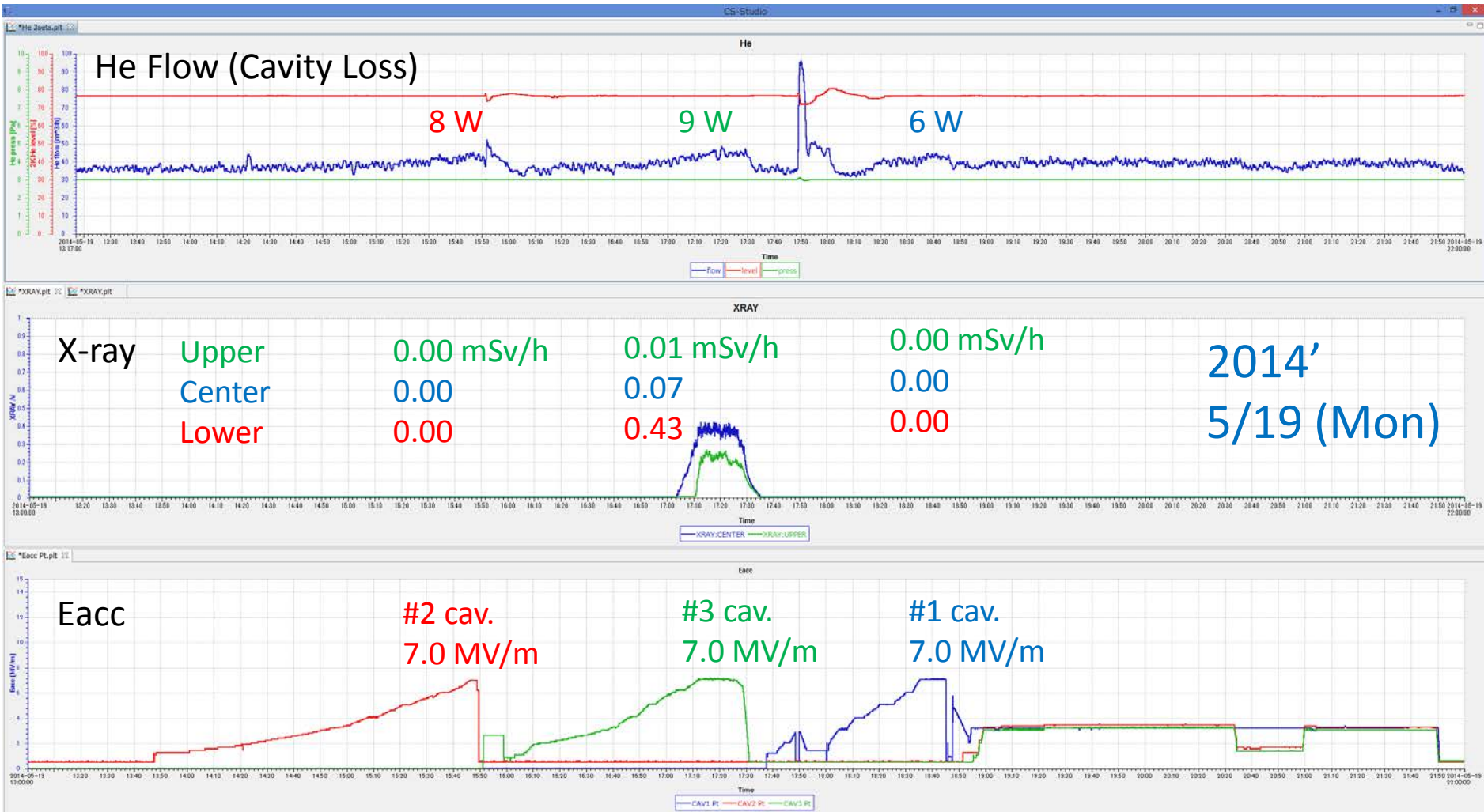


He flow, X-ray, Eacc : (2015' June 11, Thu)

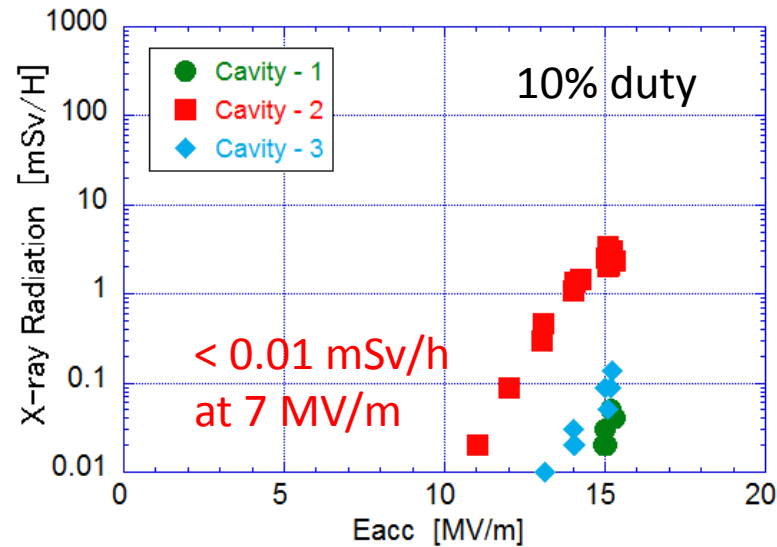
6/11
(Thu)



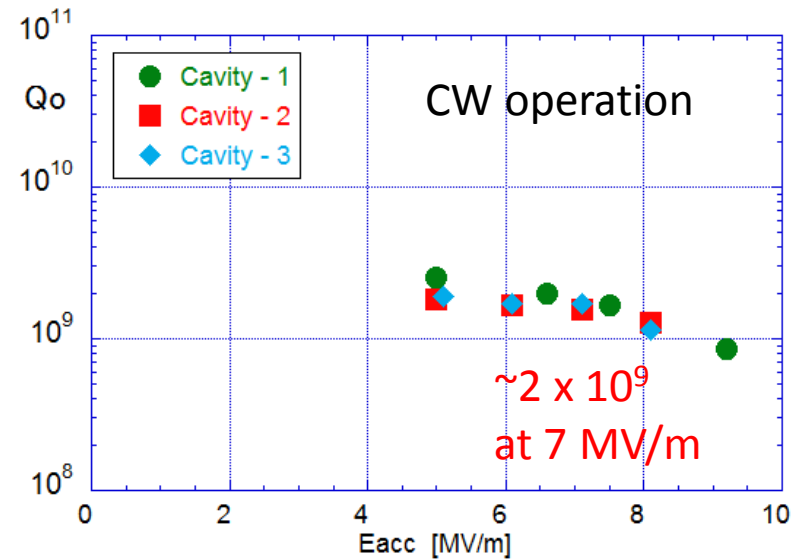
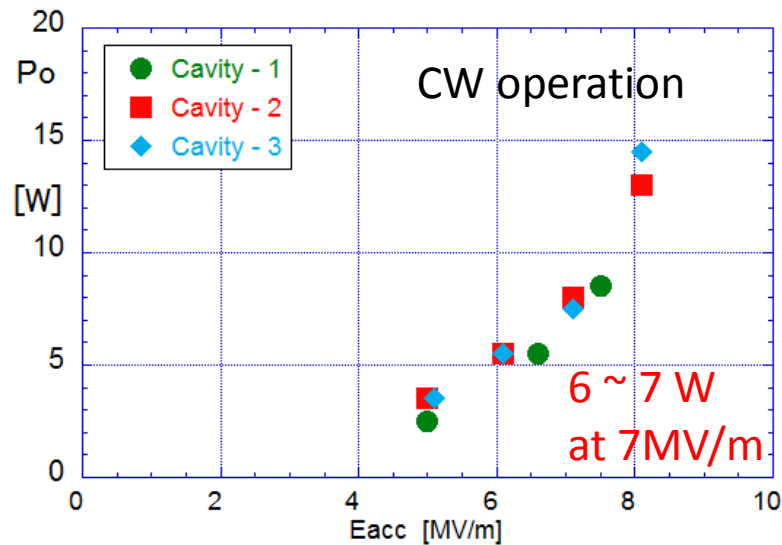
He flow, X-ray, Eacc : (2014' May 19, Mon)



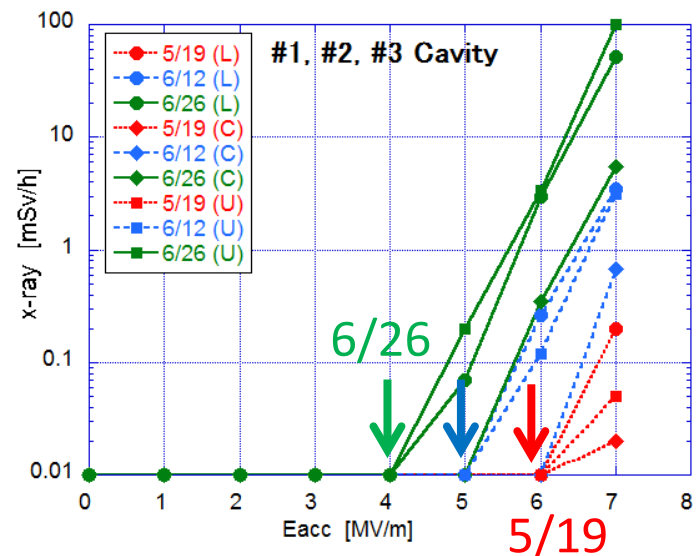
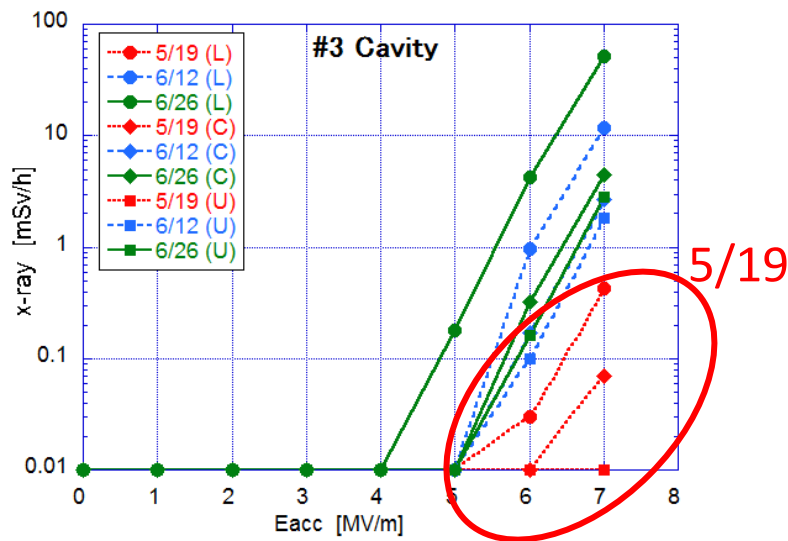
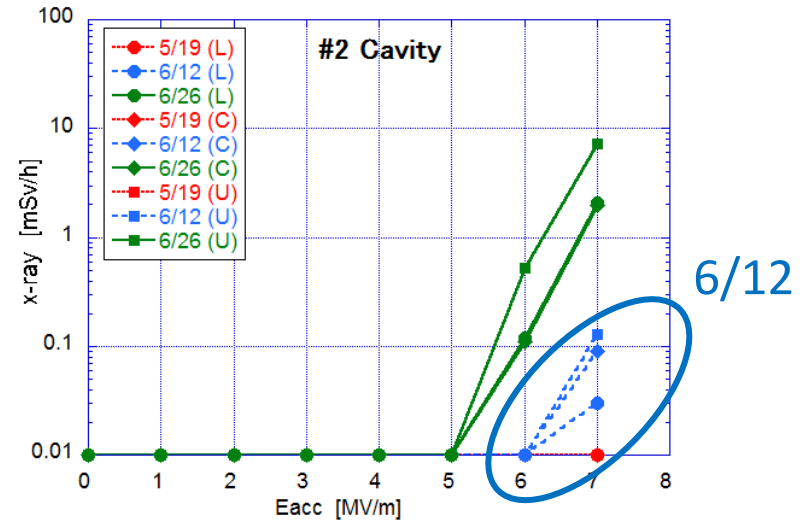
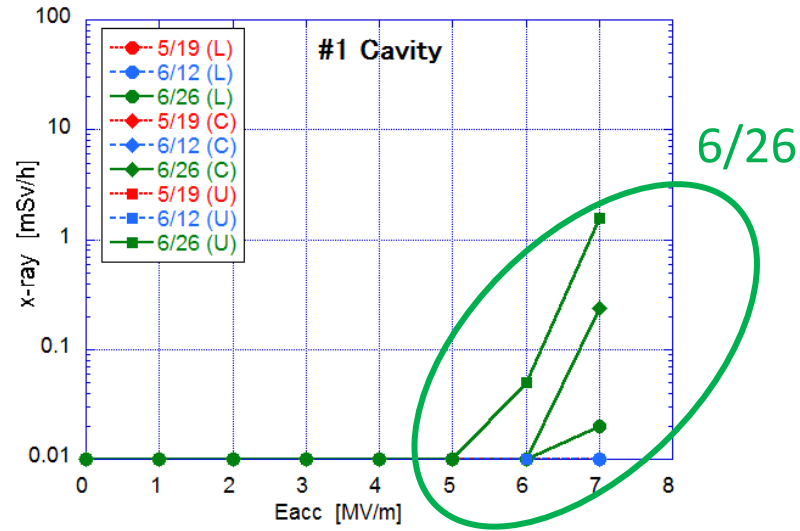
Initial observation of x-ray, cavity loss, Qo



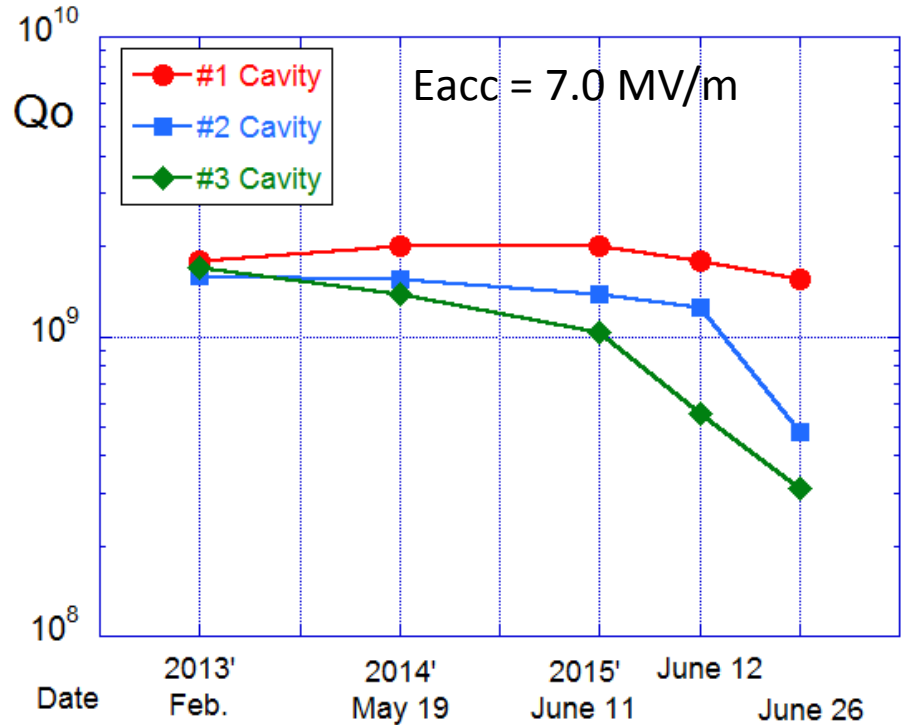
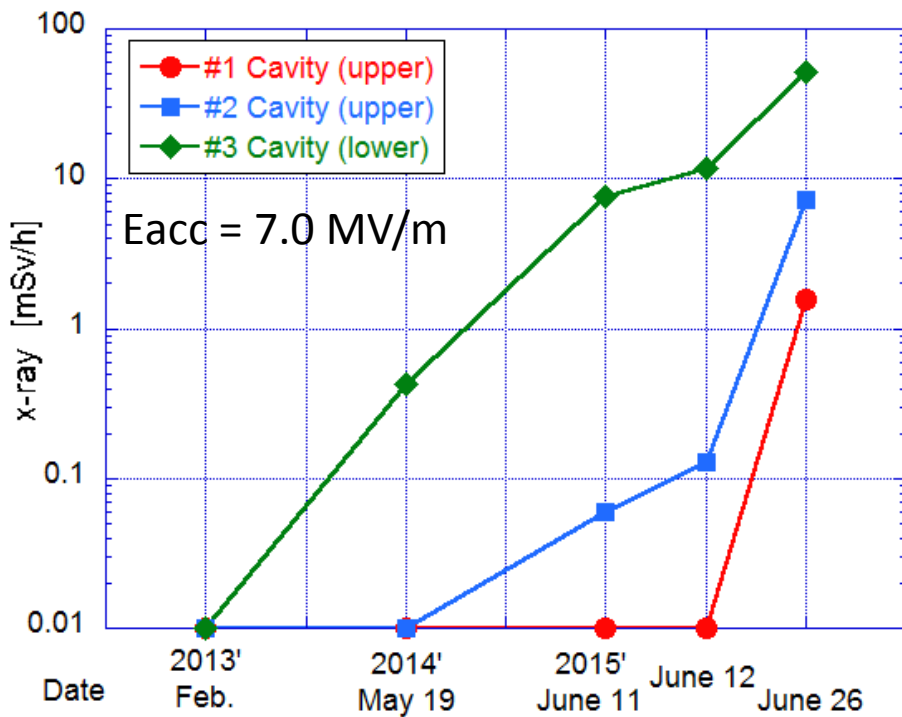
2013, Feb.



X-ray radiation level vs. Eacc in three cavities



Change of X-ray radiation level and Qo at 7.0 MV/m



まとめ

- 6月8日からの5MeV運転時より、徐々にX線レベルの観測量が増加しており、6月26日の最終日には、3空洞とも2～3桁の上昇がみられた。
- X線が観測される最低レベル(0.01mSV/h以上)は、5MV/m付近まで低下してきている。
- X線レベルの増加に伴い、 Q_0 値の低下がみられる。
- 空洞性能の低下は、下流側の#3空洞からはじまり徐々に上流側の空洞に移っているようである。
- 空洞からの電界放出電子は、上流側の電子銃に向かって飛び出している。
- 電界放出電子の抑制のために、効果のあるエージングを試みる必要がある。