

# RPC Ecogas Study – Updates



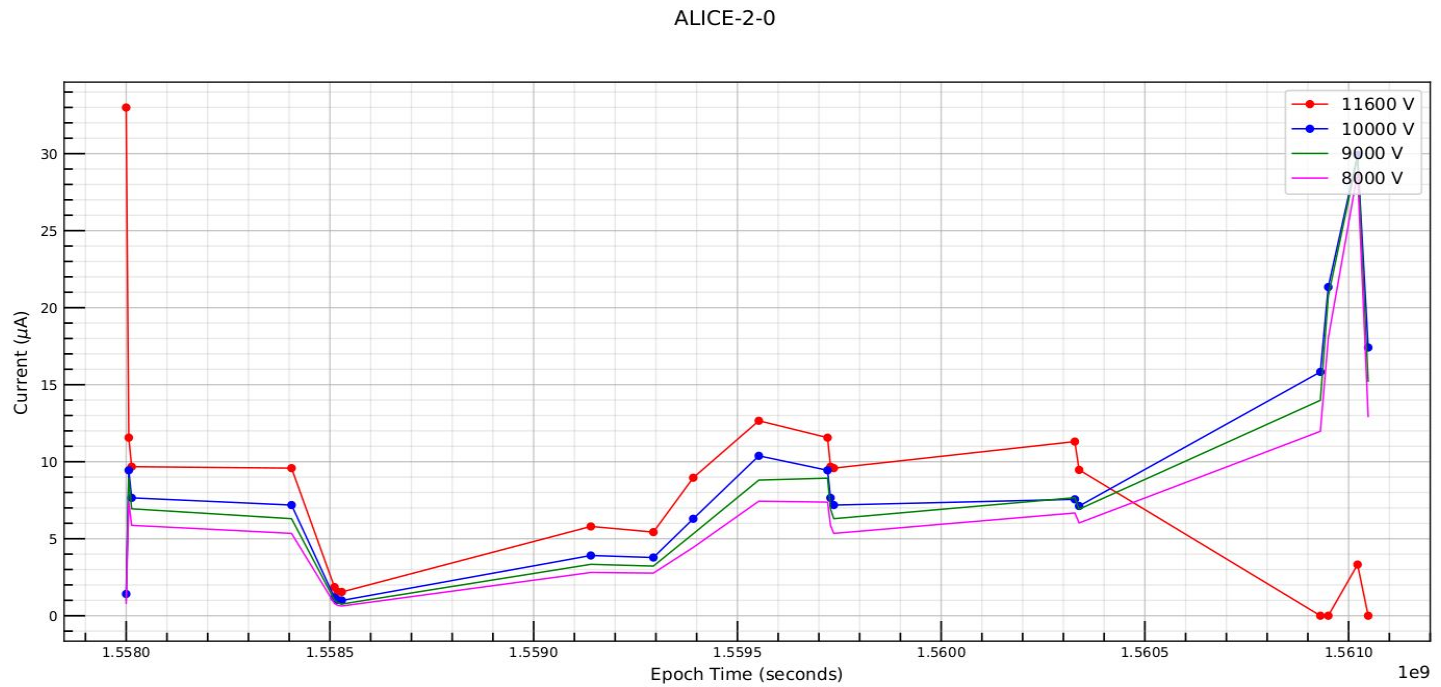
Amrutha Samalan

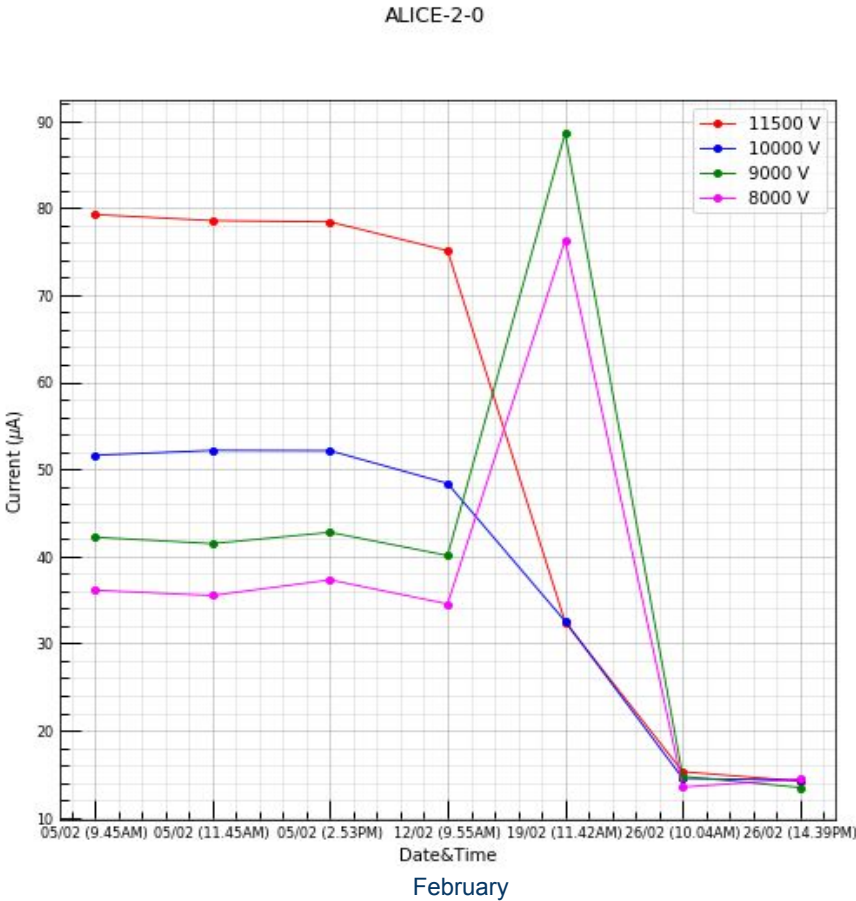
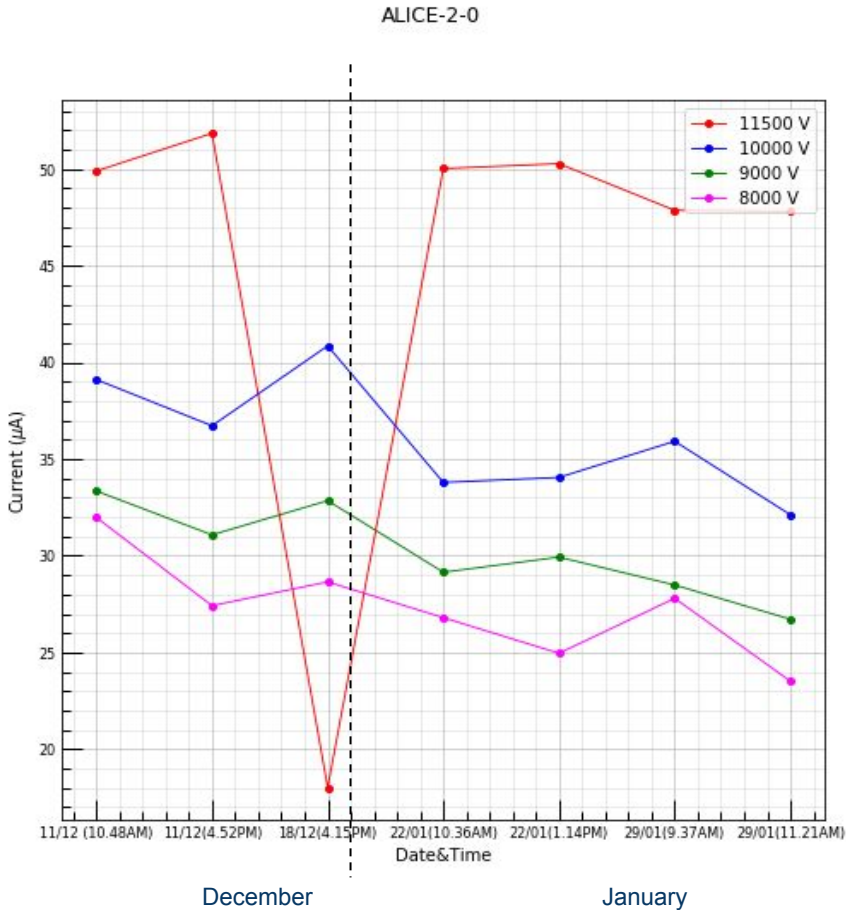
- ECOGAS1: 45% HFO, 50% CO<sub>2</sub>, 4% iC<sub>4</sub>H<sub>10</sub>, 1% SF<sub>6</sub>

Analysis: scans - May 2019 to 20 June 2019

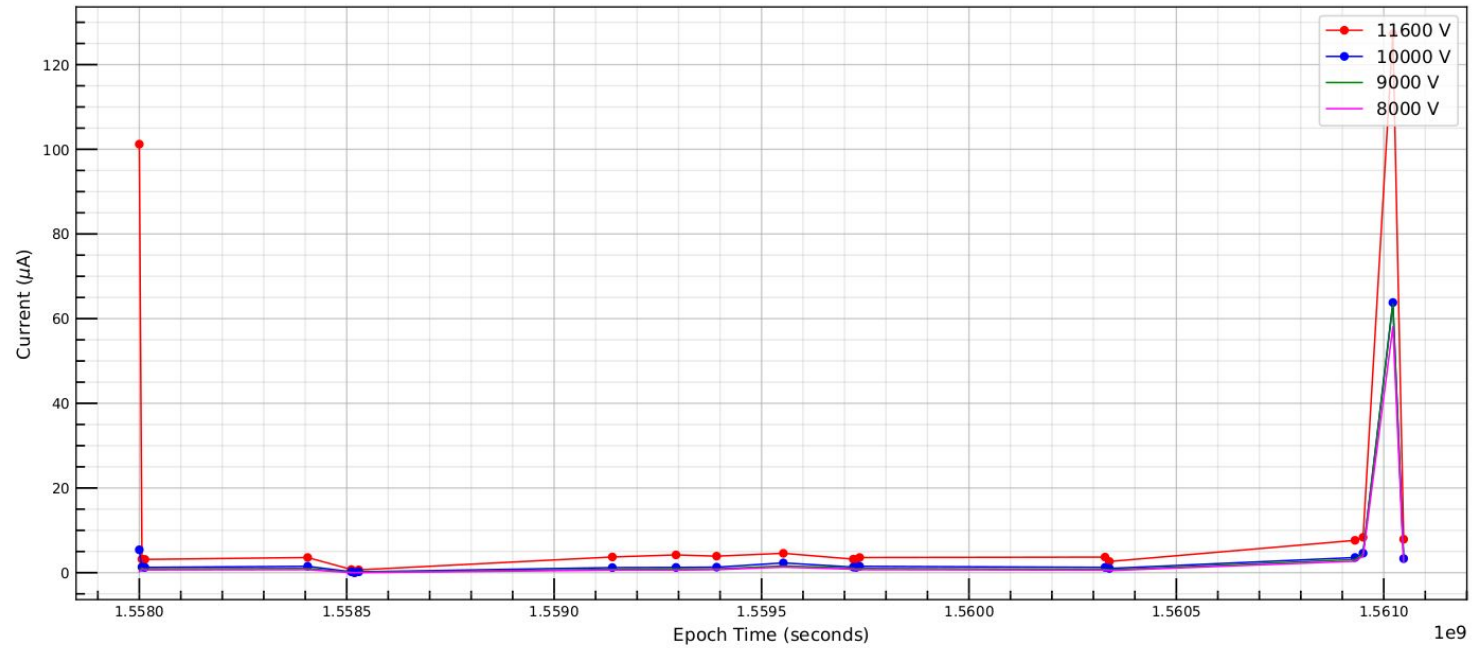
- ECOGAS2: 35% HFO, 60% CO<sub>2</sub>, 4% iC<sub>4</sub>H<sub>10</sub>, 1% SF<sub>6</sub>

Analysis: scans- December 2019 to February 2020

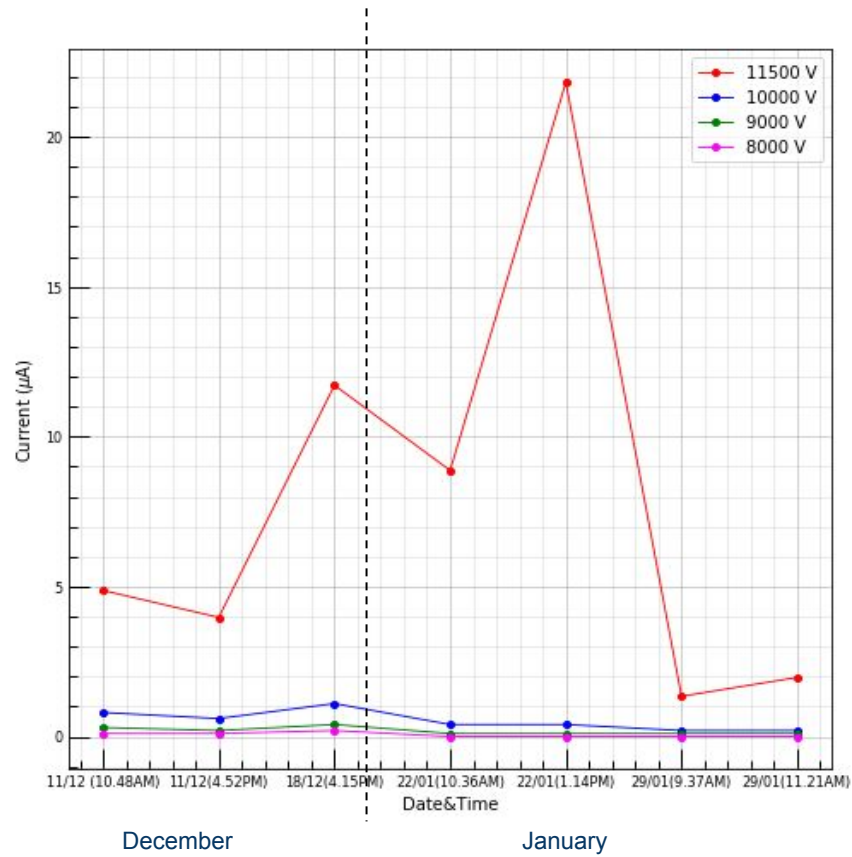




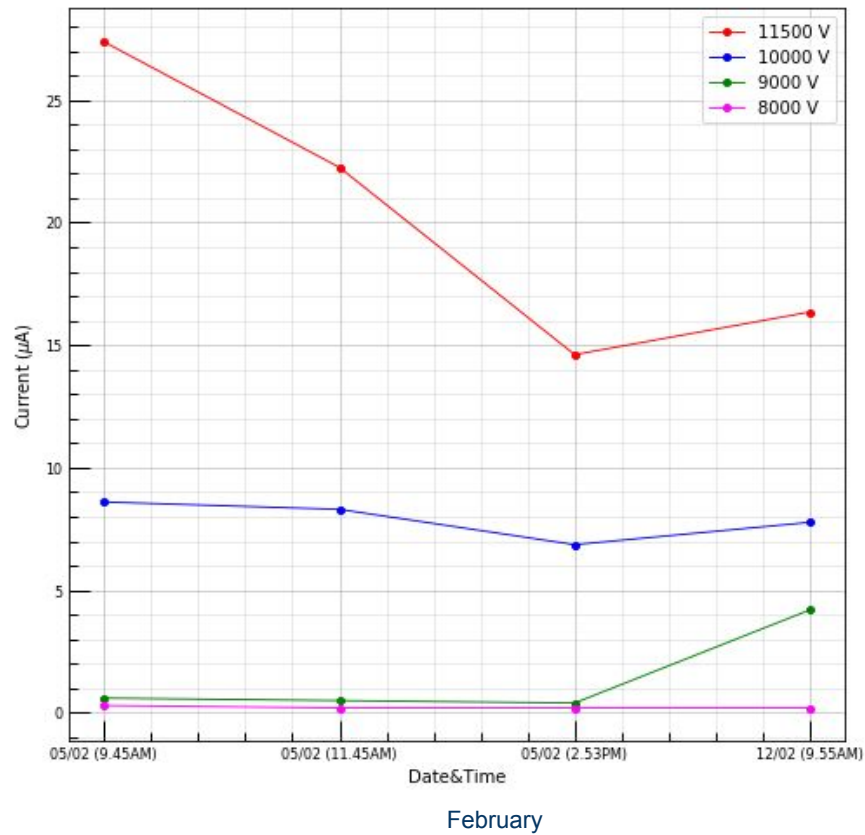
EPDT-RPC-3



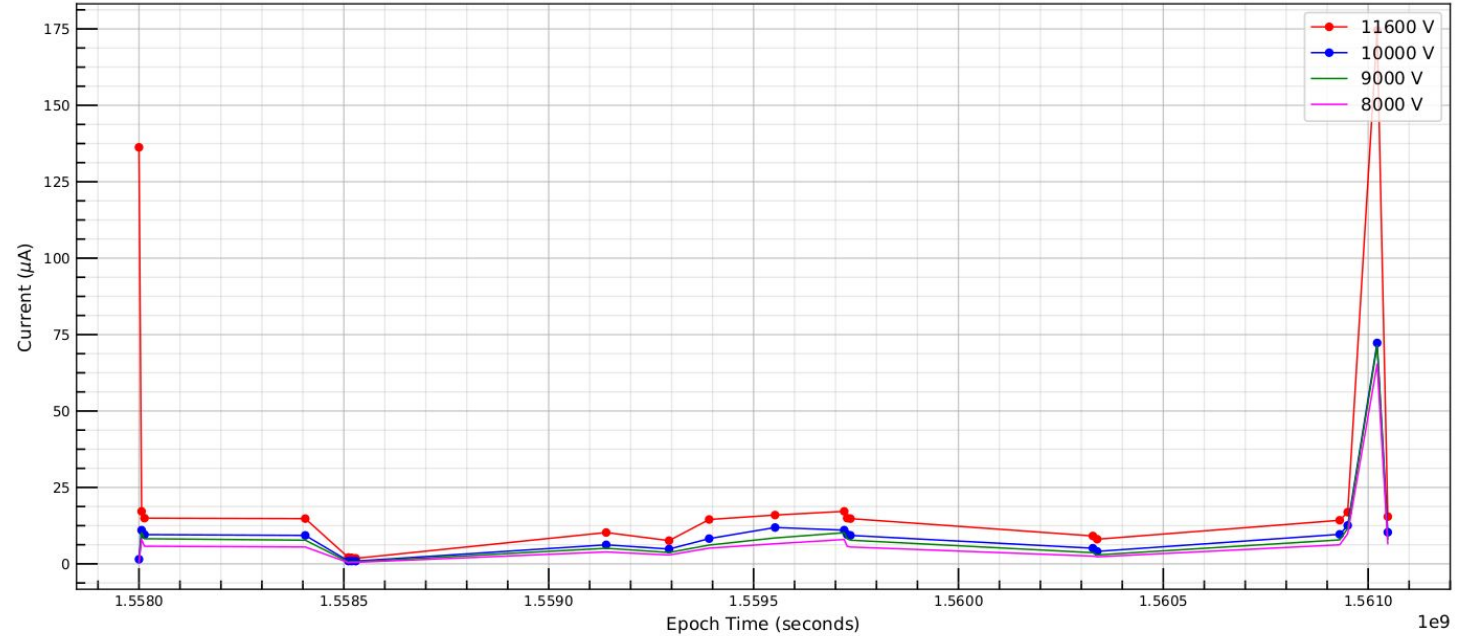
EPDT-RPC-3



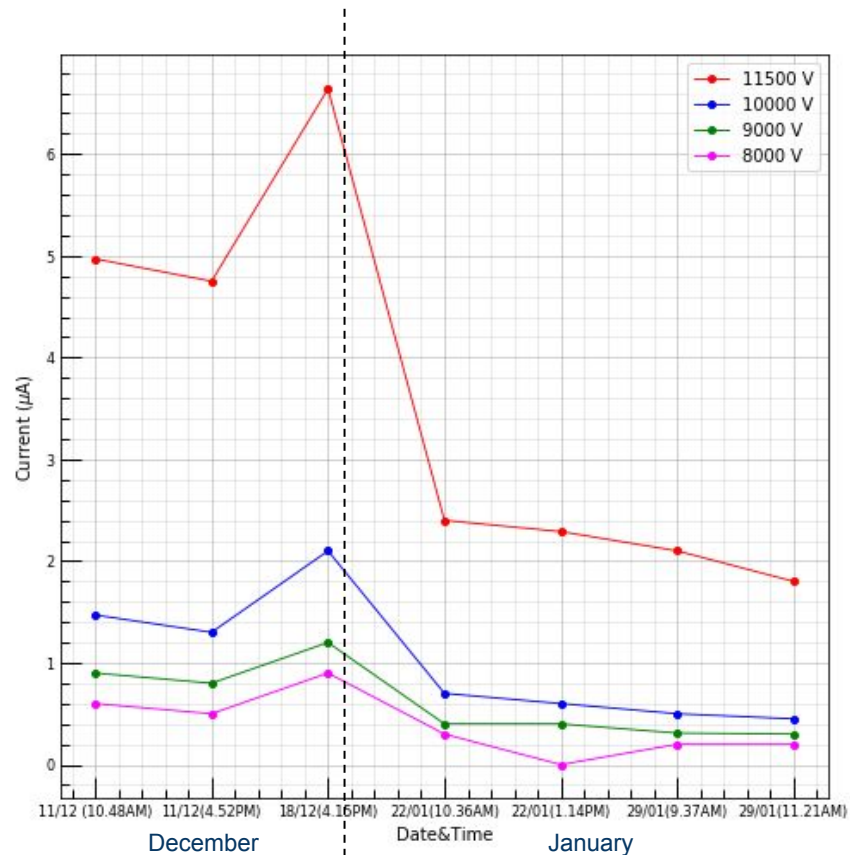
EPDT-RPC-3



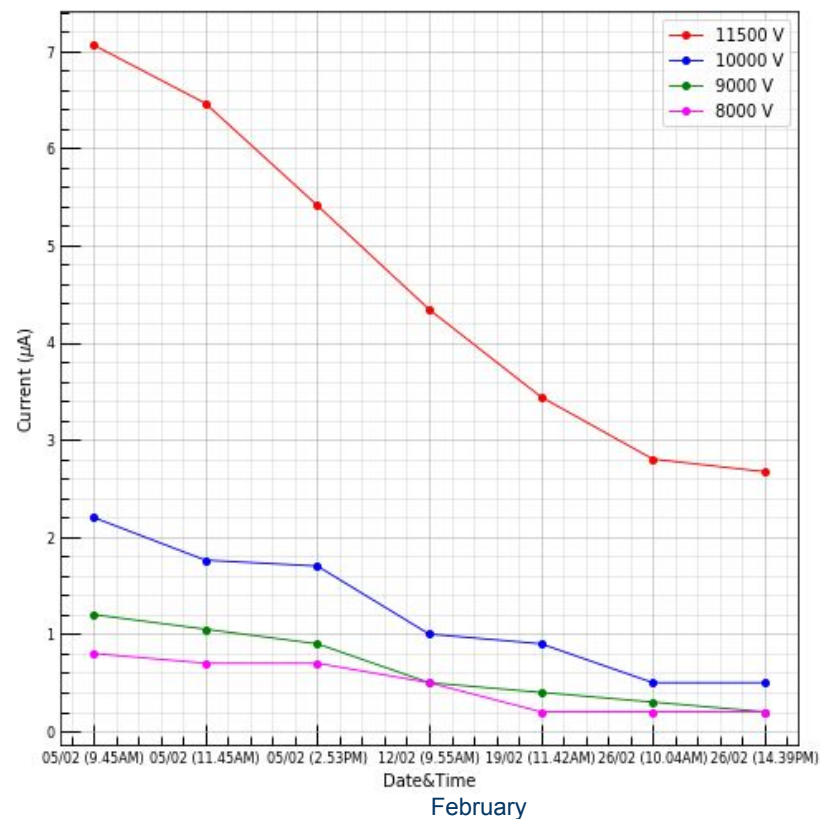
CMS-GT-2-0-BOT



CMS-GT-2-0-BOT

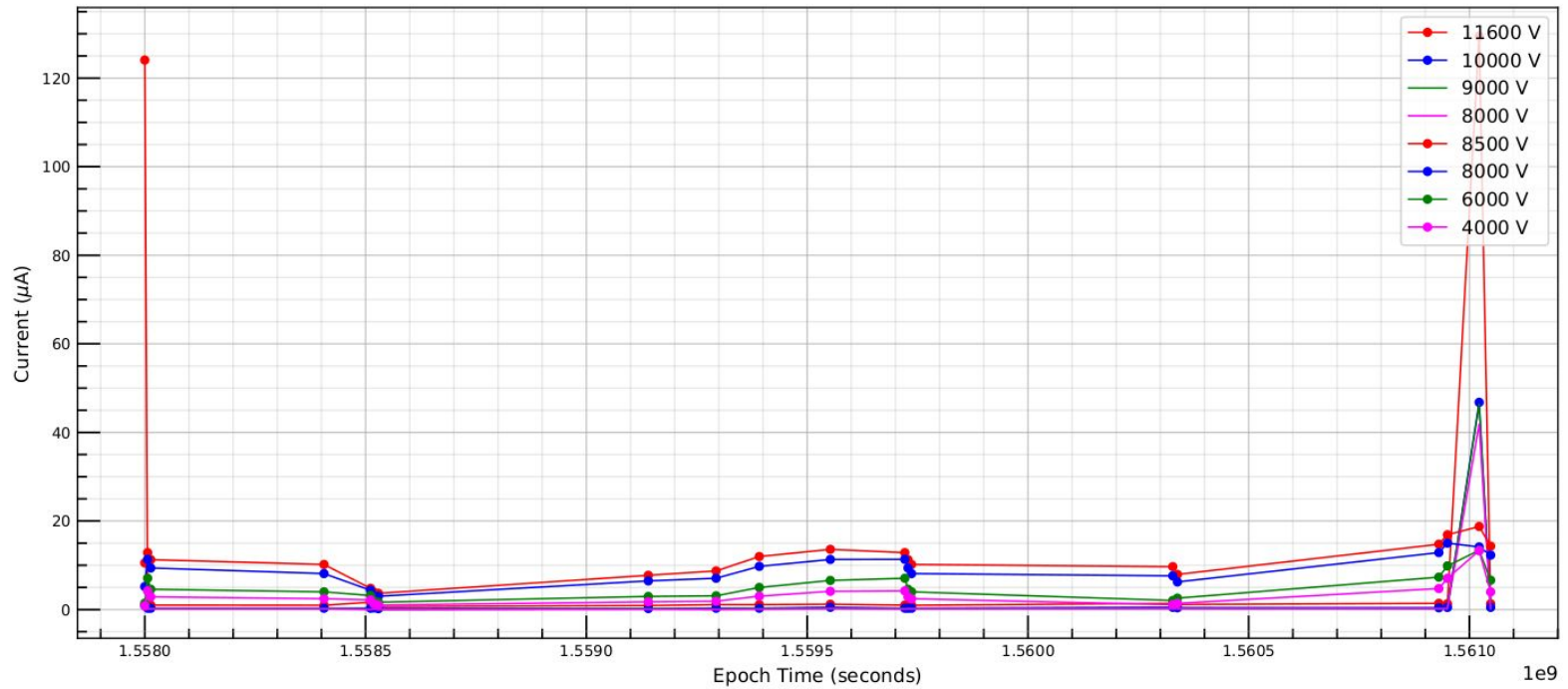


CMS-GT-2-0-BOT

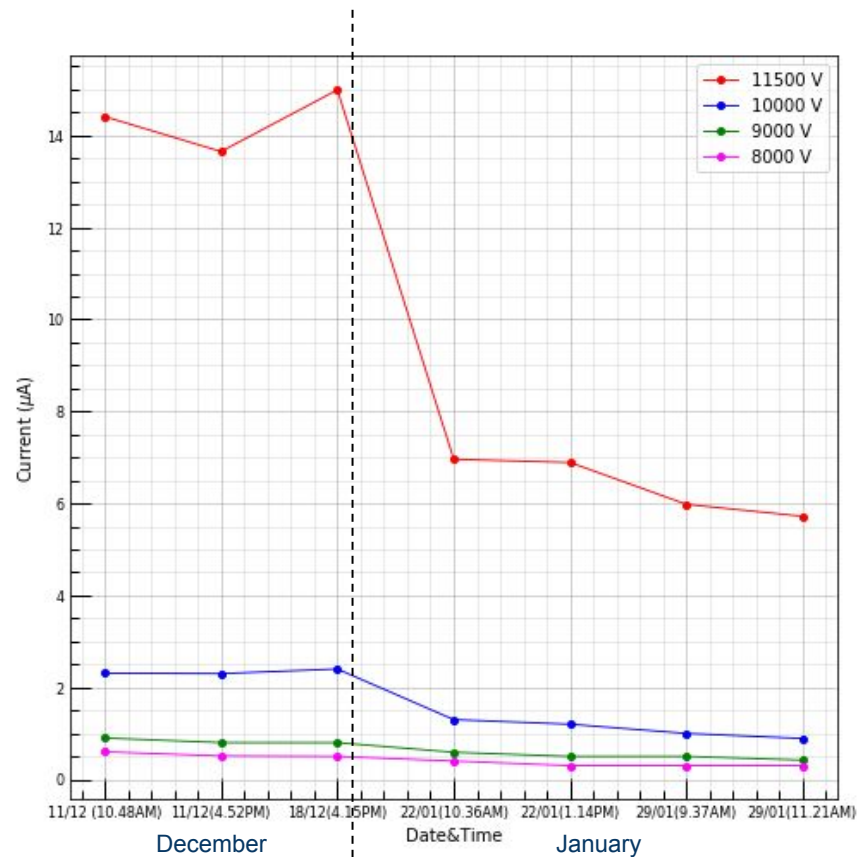




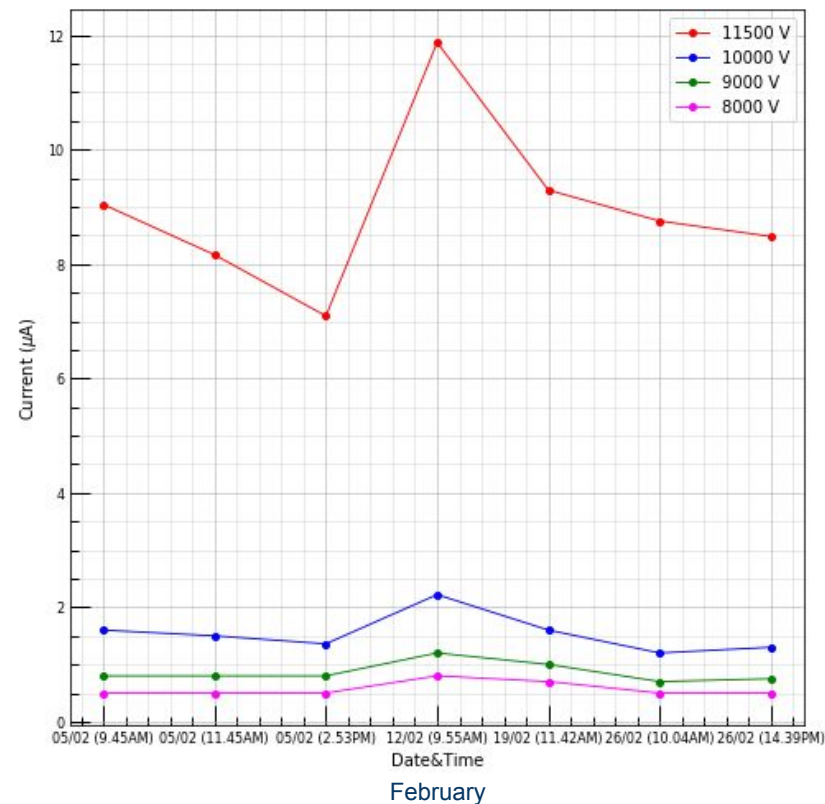
CMS-GT-2-0-TOP



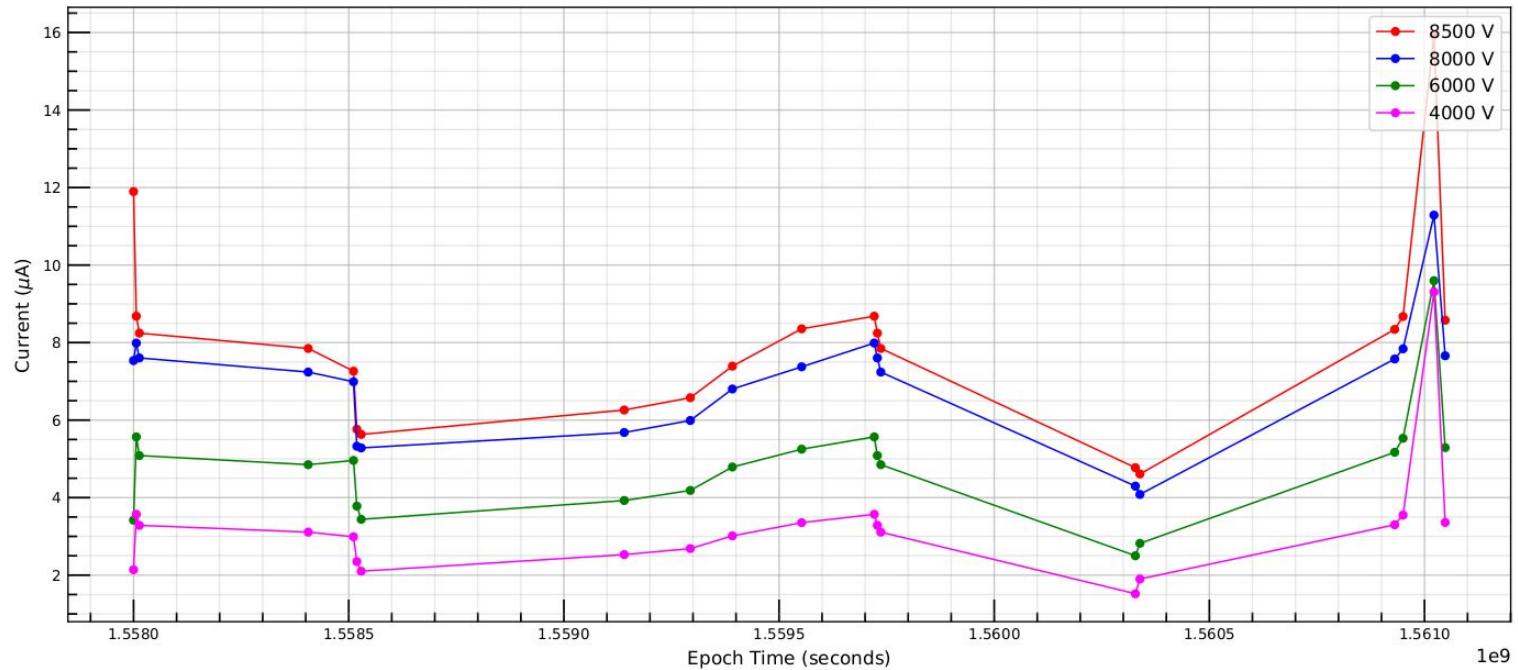
CMS-GT-2-0-TOP



CMS-GT-2-0-TOP

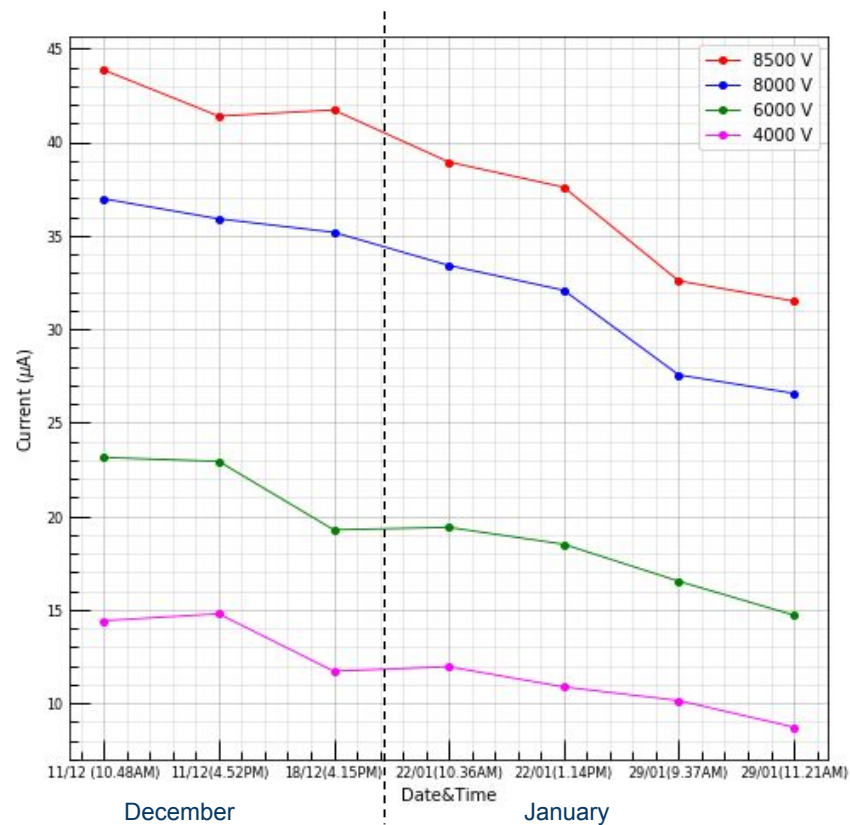


CMS-KODEL-1-4-BOT

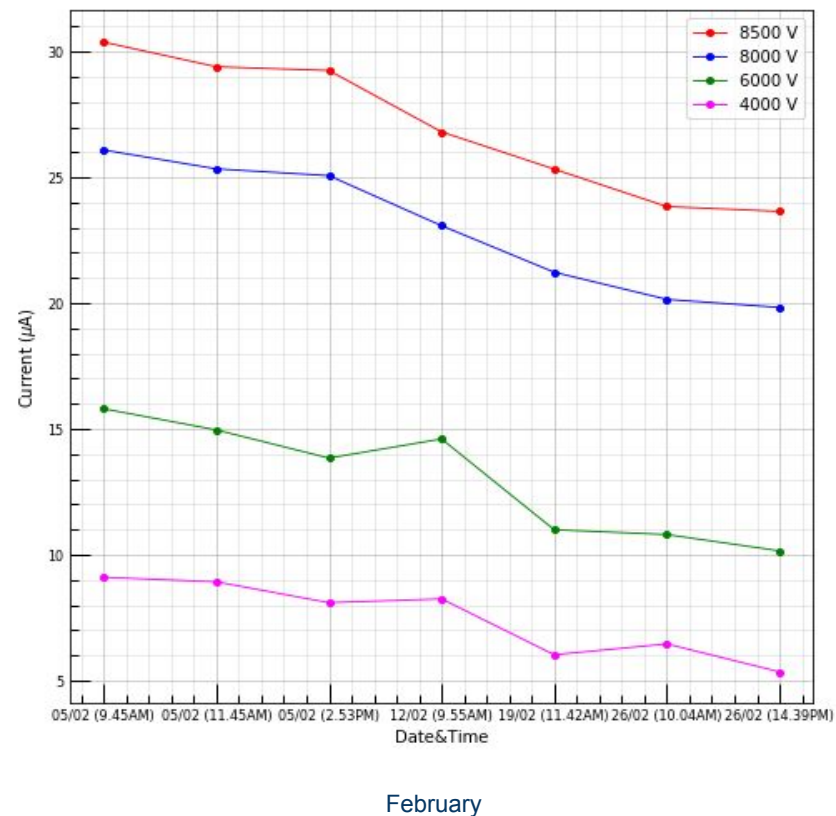


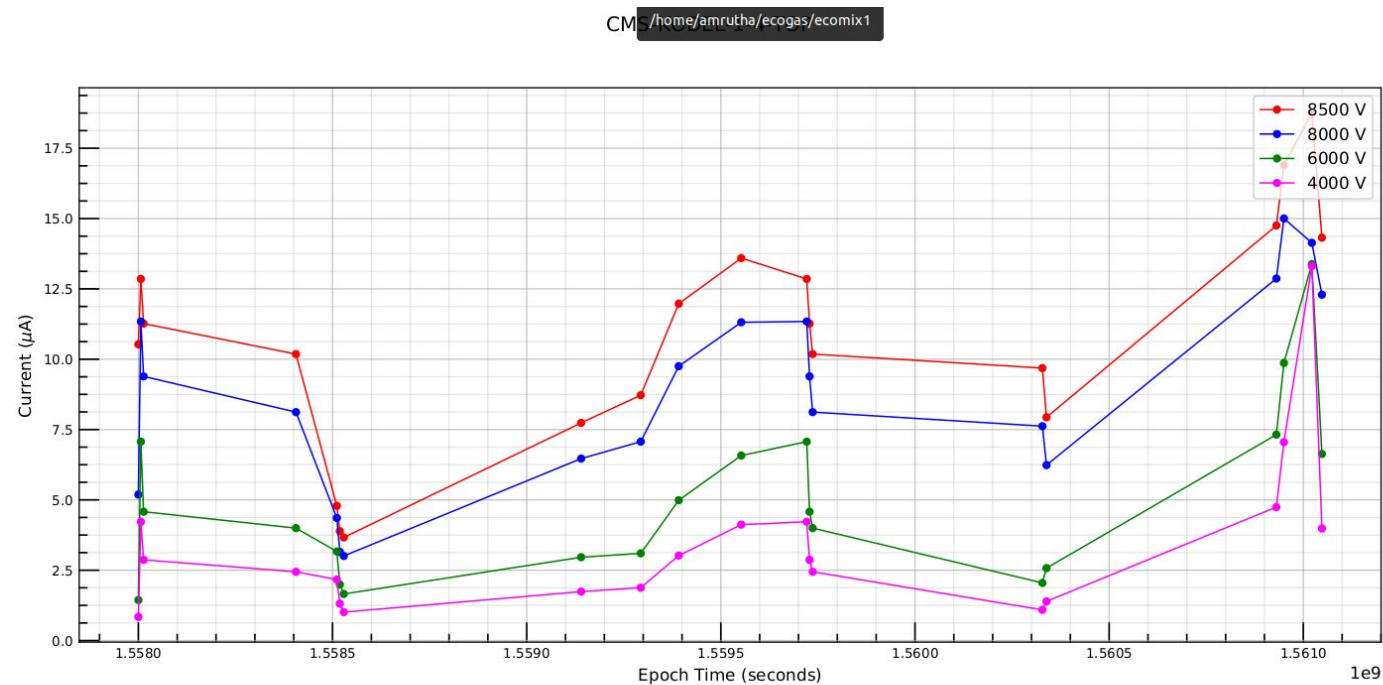
# CMS-KODEL chamber (BOT)- ECOGAS 2

CMS-KODEL-1-4-BOT

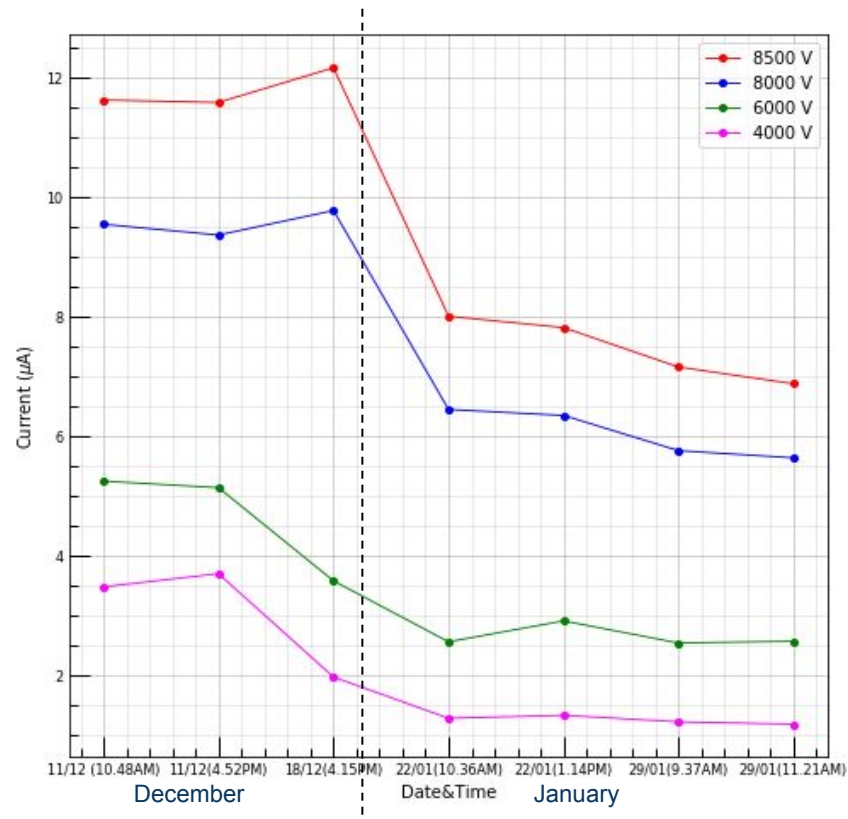


CMS-KODEL-1-4-BOT

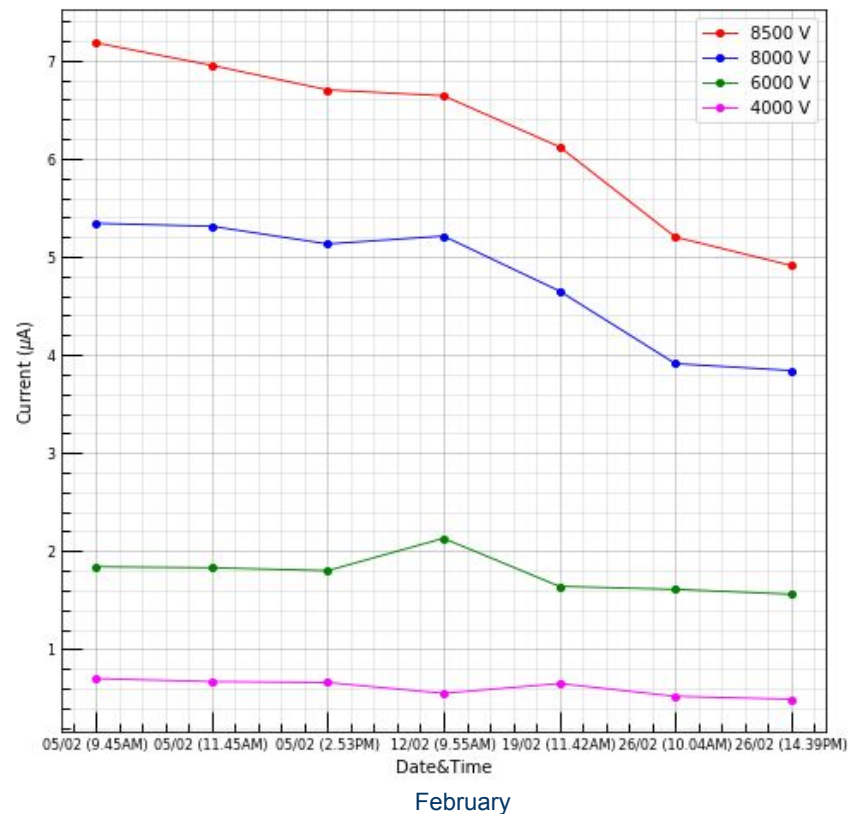


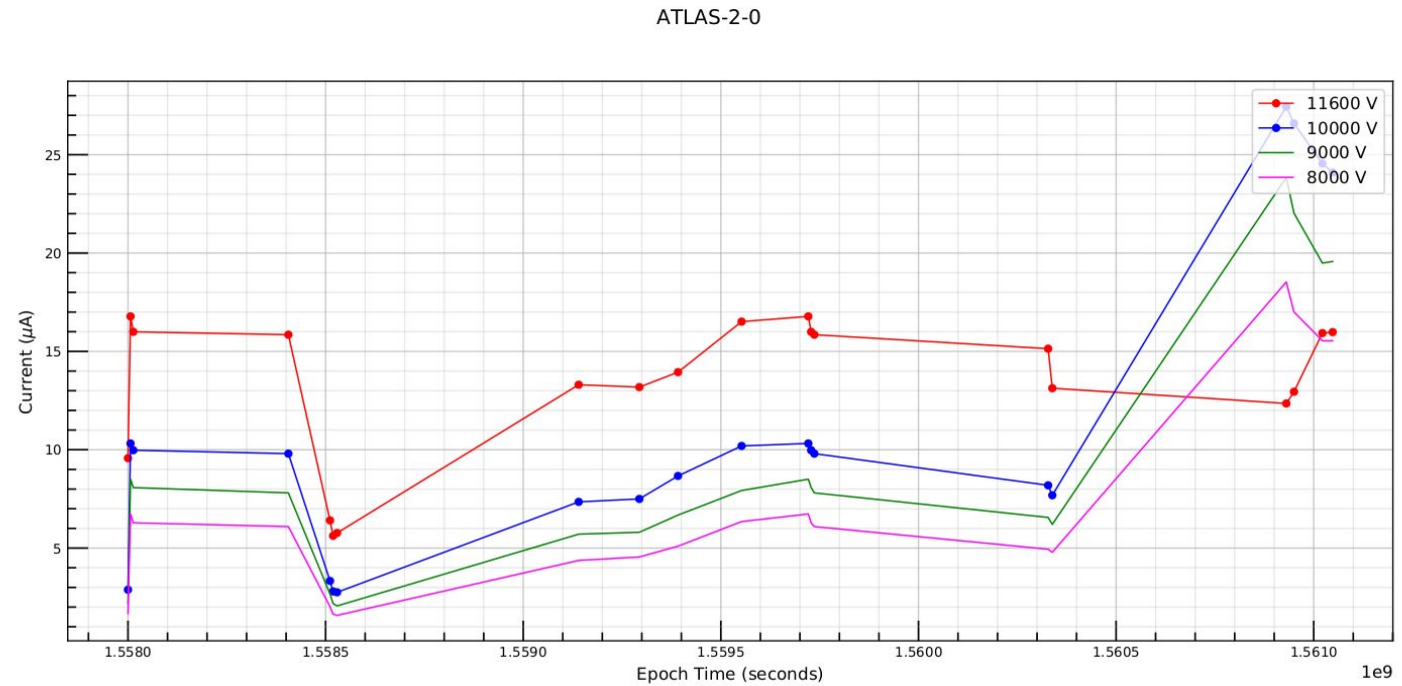


CMS-KODEL-1-4-TOP



CMS-KODEL-1-4-TOP





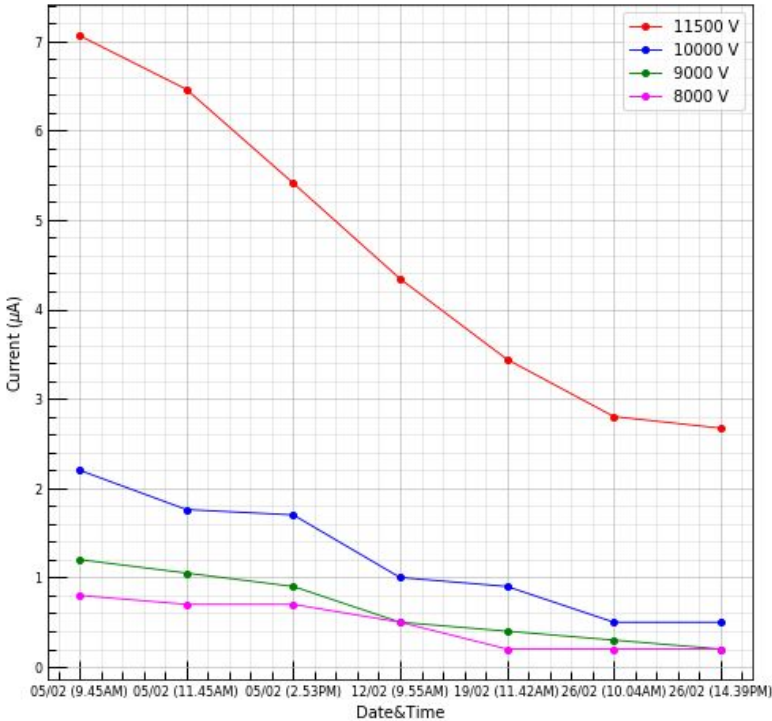
# Backup slides



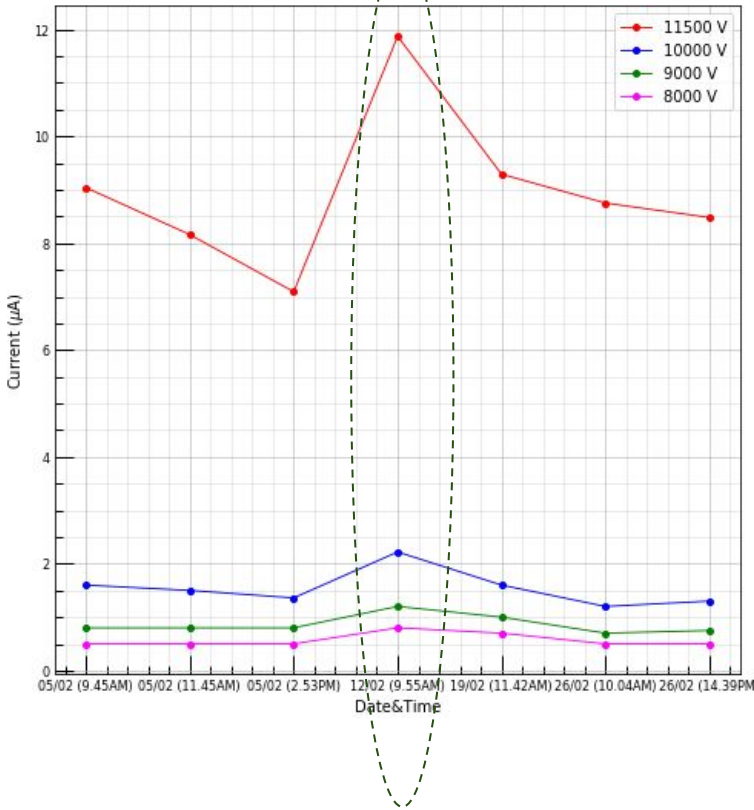


# Dark current monitoring summary - February

CMS-GT-2-0-BOT

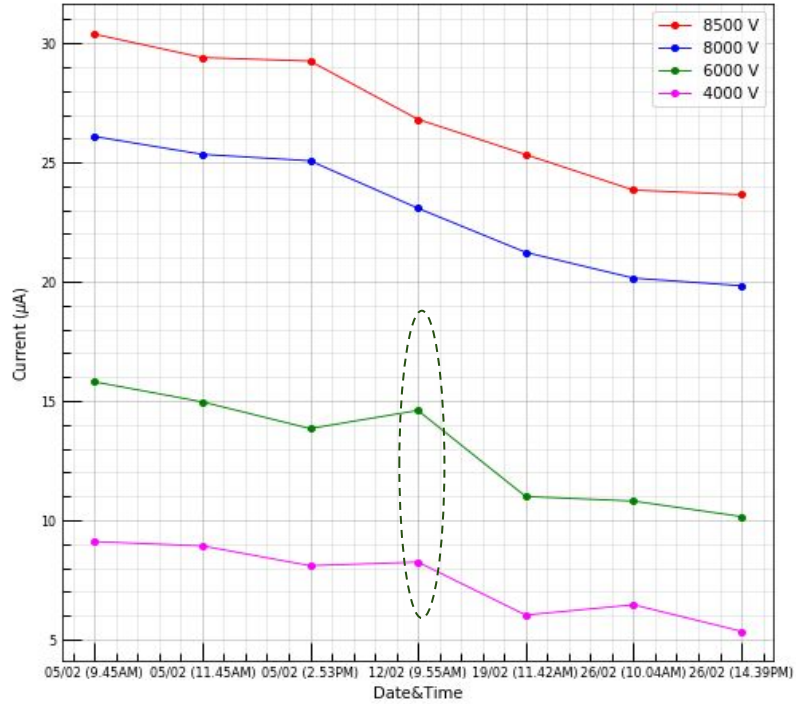


CMS-GT-2-0-TOP

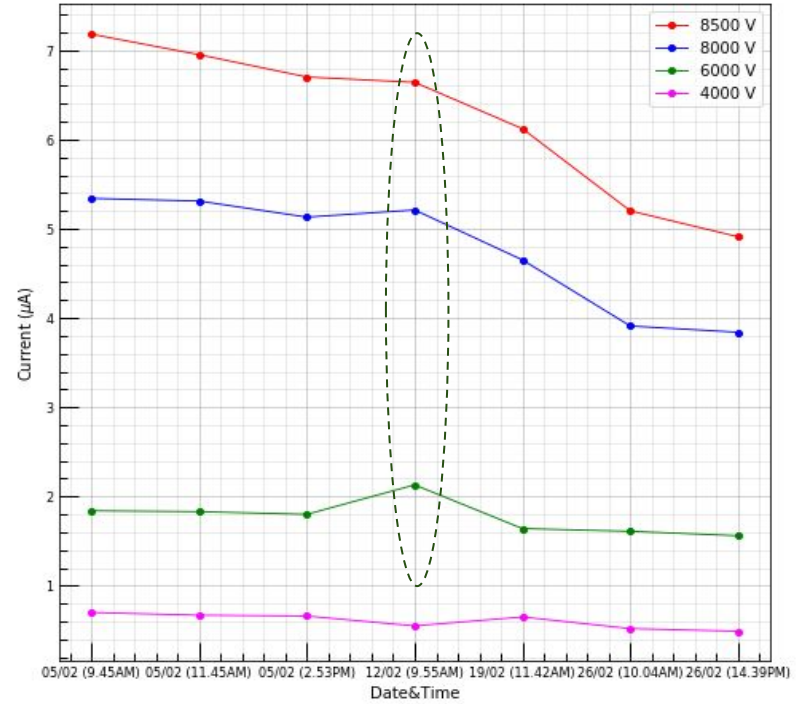


# Dark current monitoring summary - February

CMS-KODEL-1-4-BOT

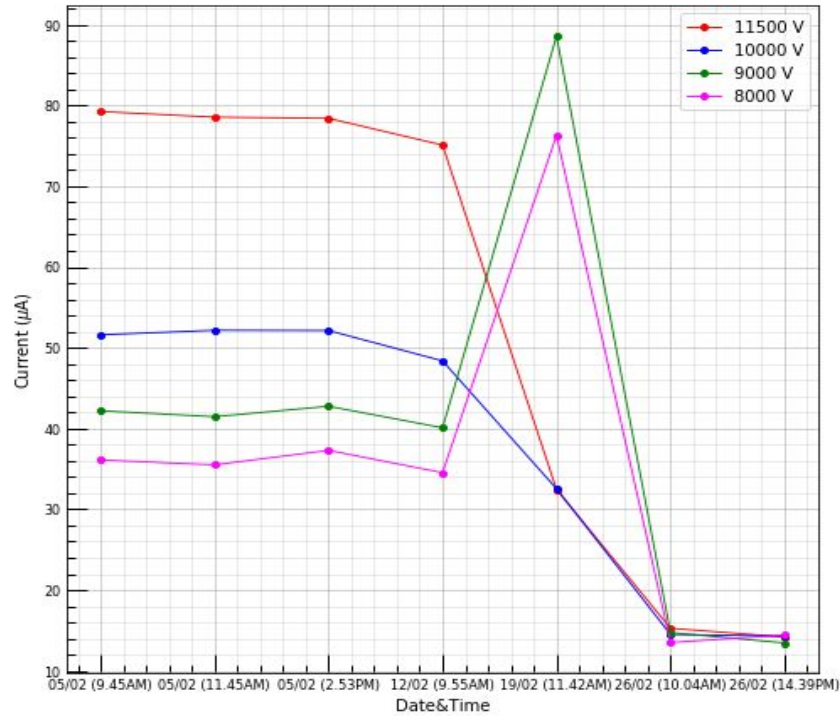


CMS-KODEL-1-4-TOP

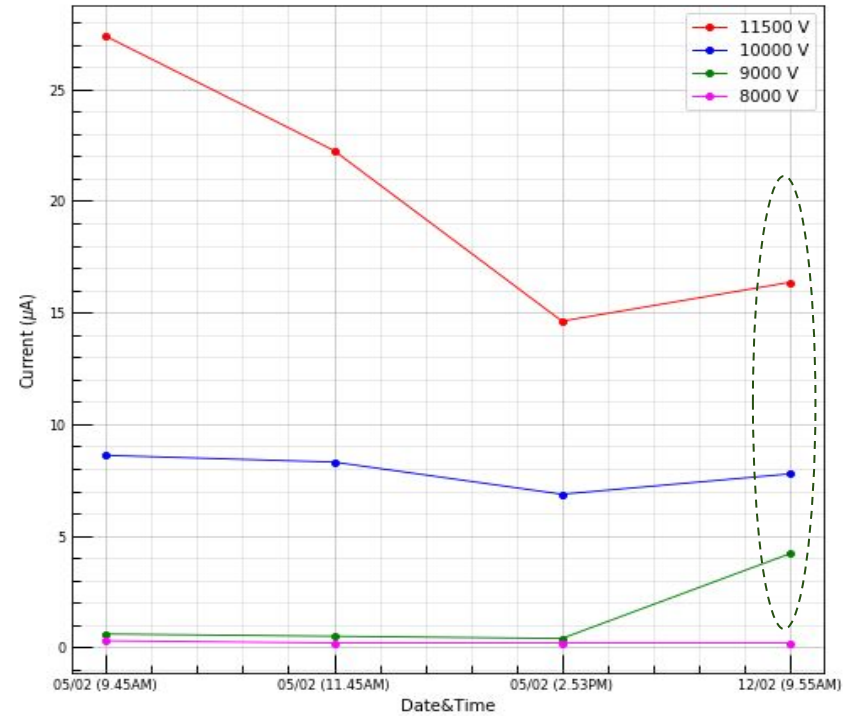


# Dark current monitoring summary - February

ALICE-2-0

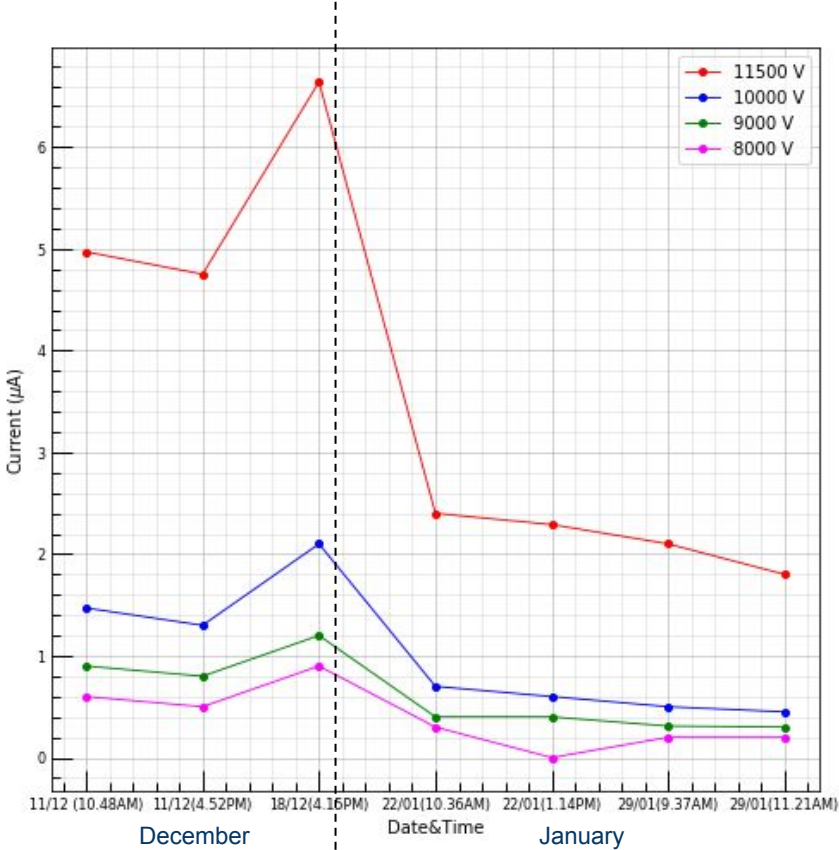


EPDT-RPC-3

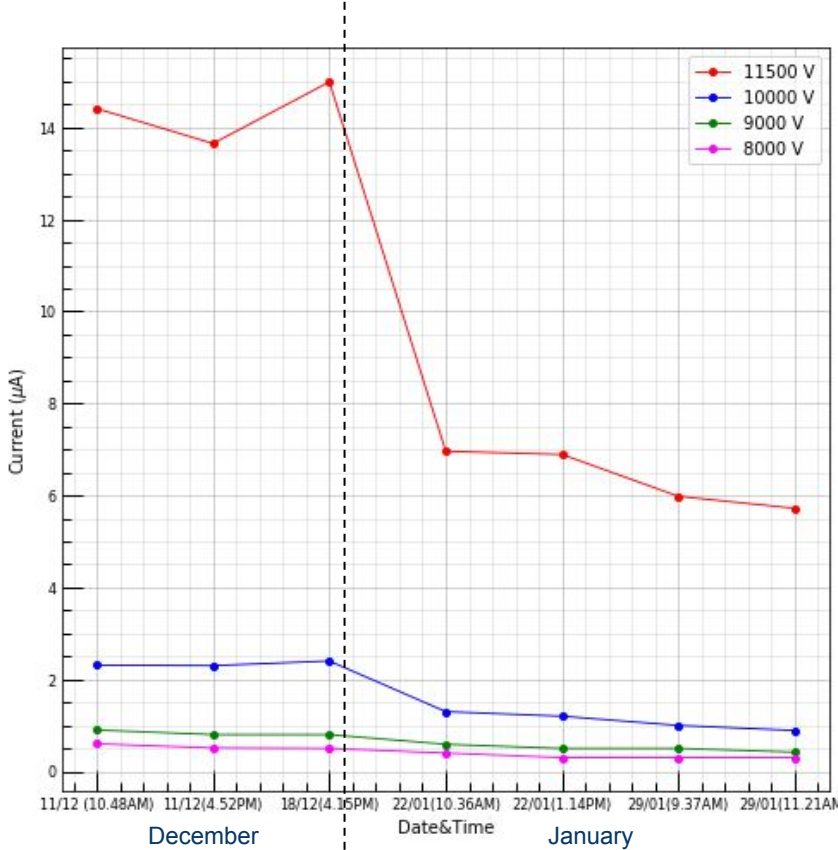


# Dark current monitoring summary - December & January

CMS-GT-2-0-BOT

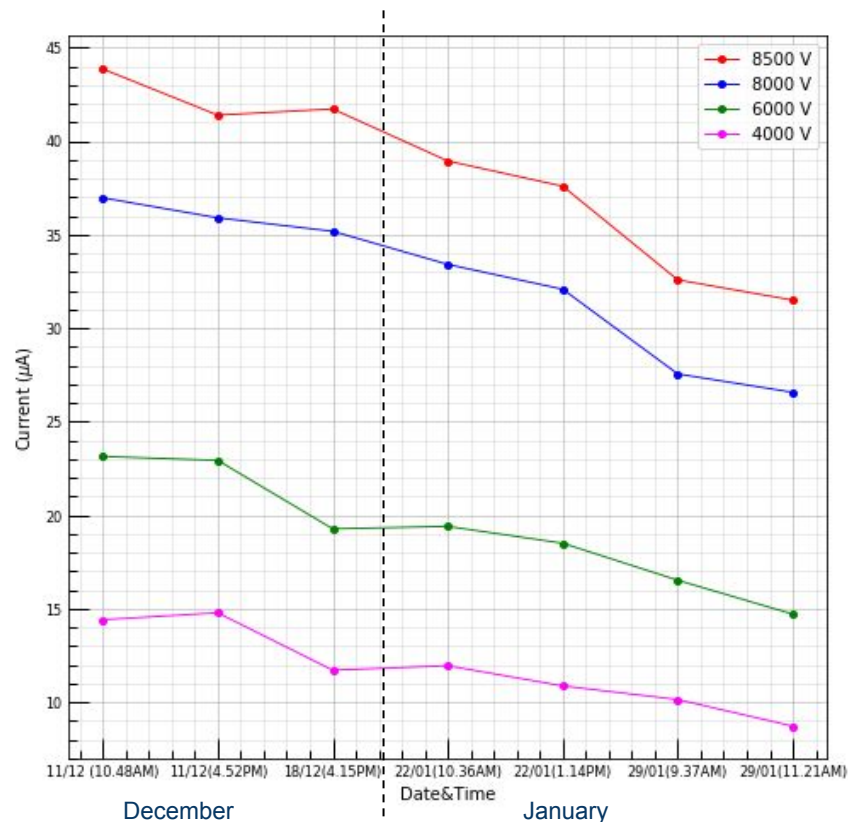


CMS-GT-2-0-TOP

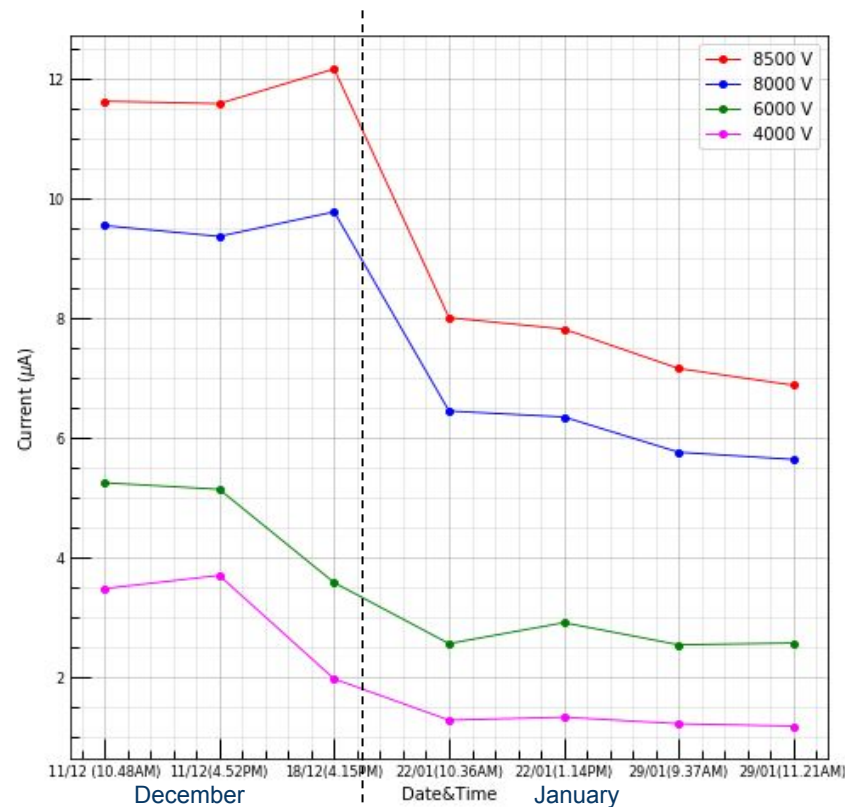


# Dark current monitoring summary - December & January

CMS-KODEL-1-4-BOT

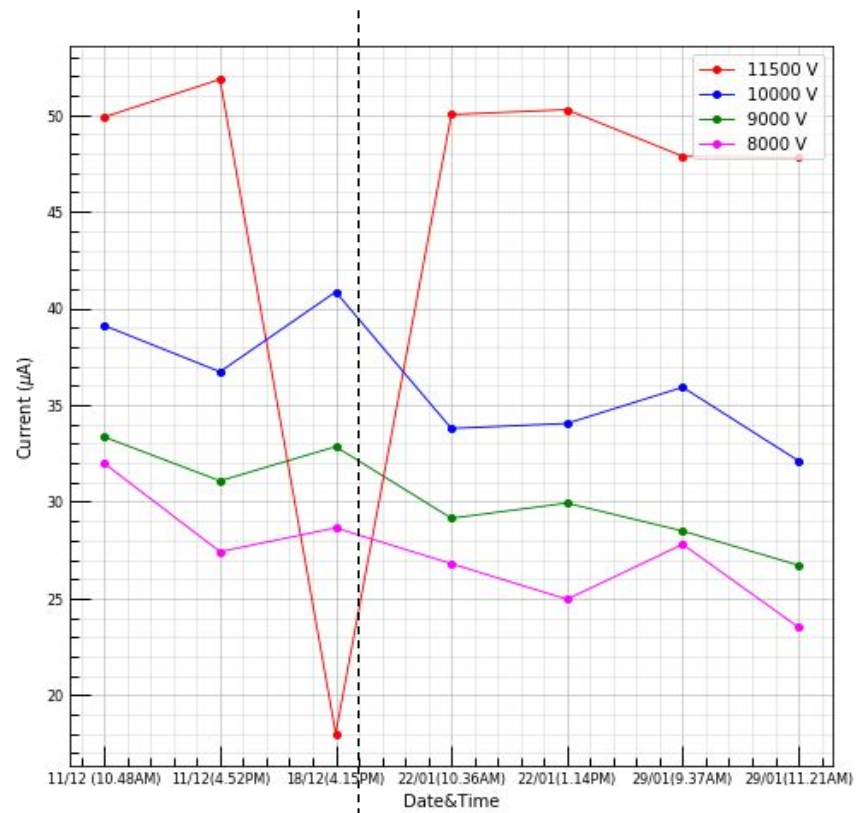


CMS-KODEL-1-4-TOP



# Dark current monitoring summary - December & January

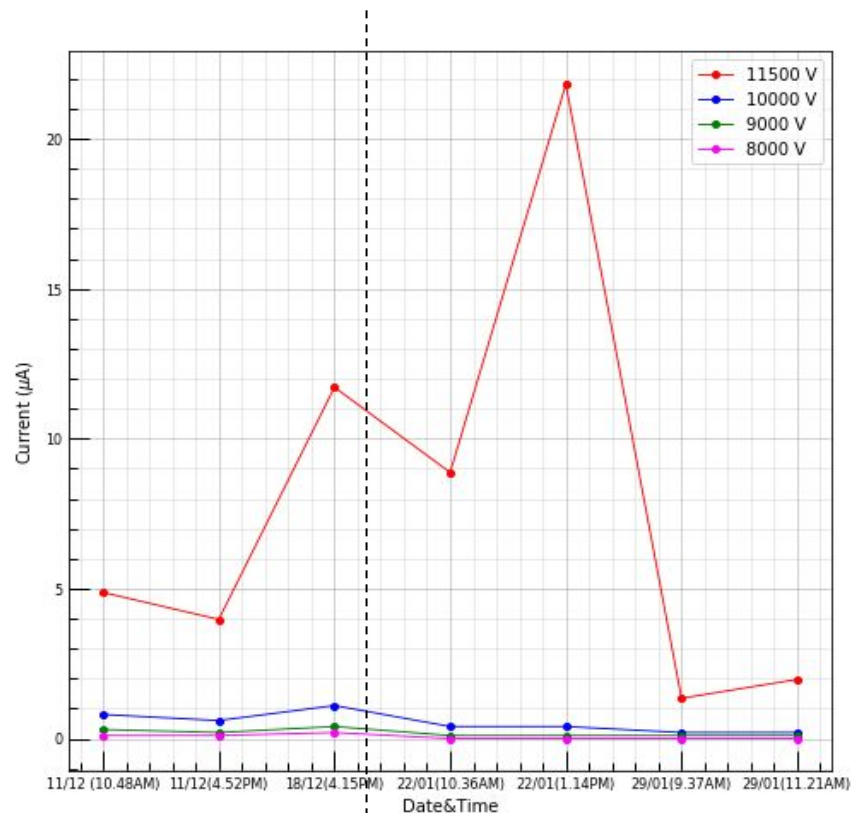
ALICE-2-0



December

January

EPDT-RPC-3

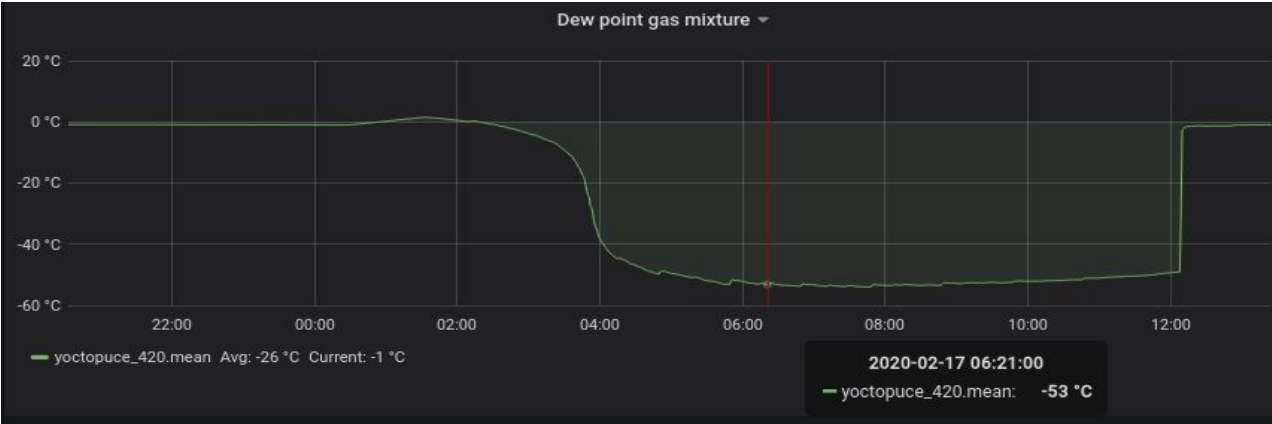
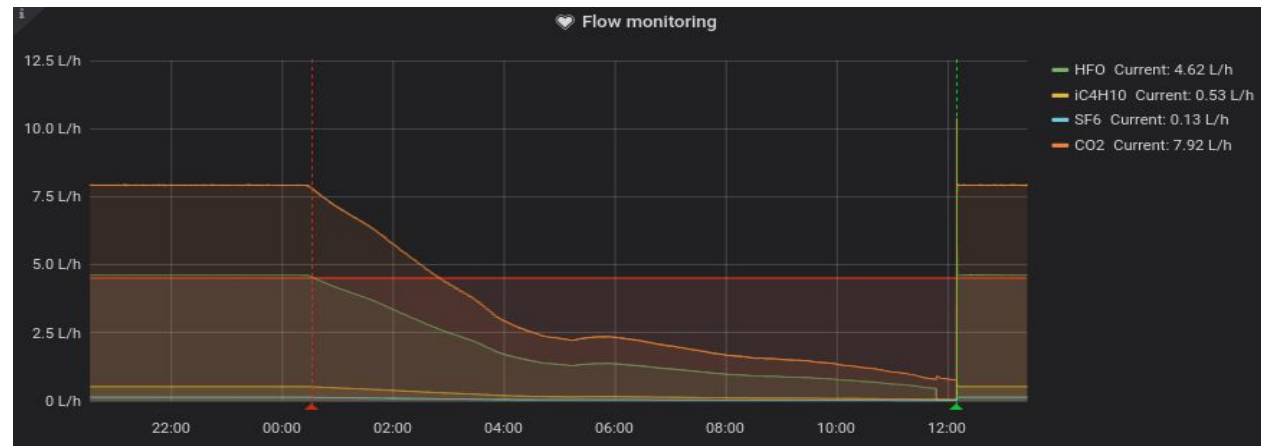


December

January

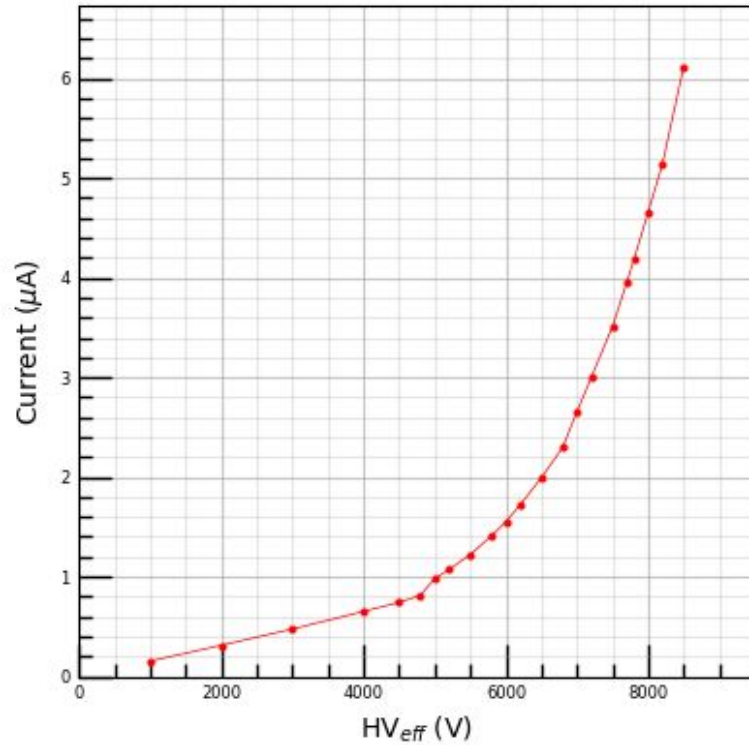


# Variation in gas flow and dew point due to insufficient CO<sub>2</sub> supply (17/02/2020)

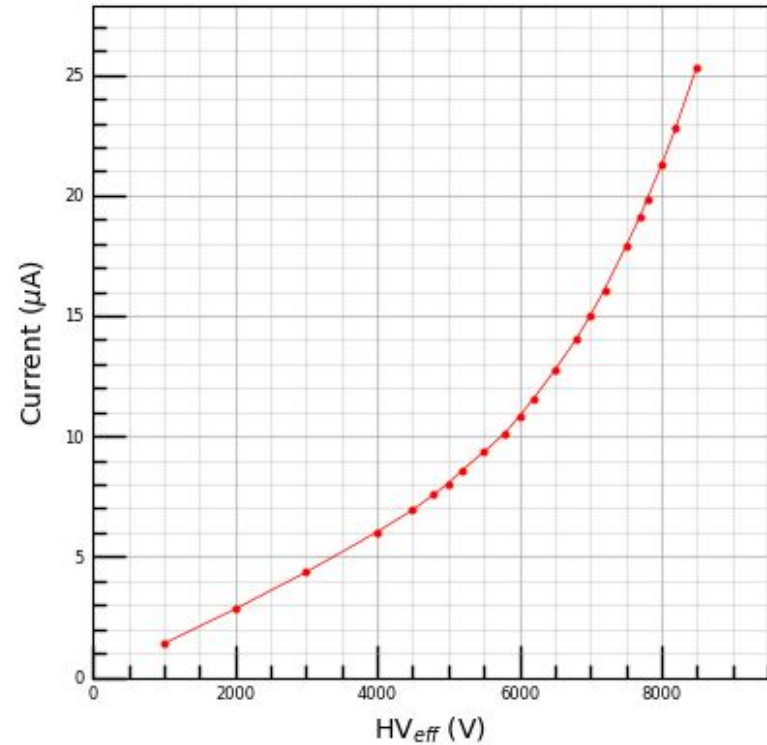




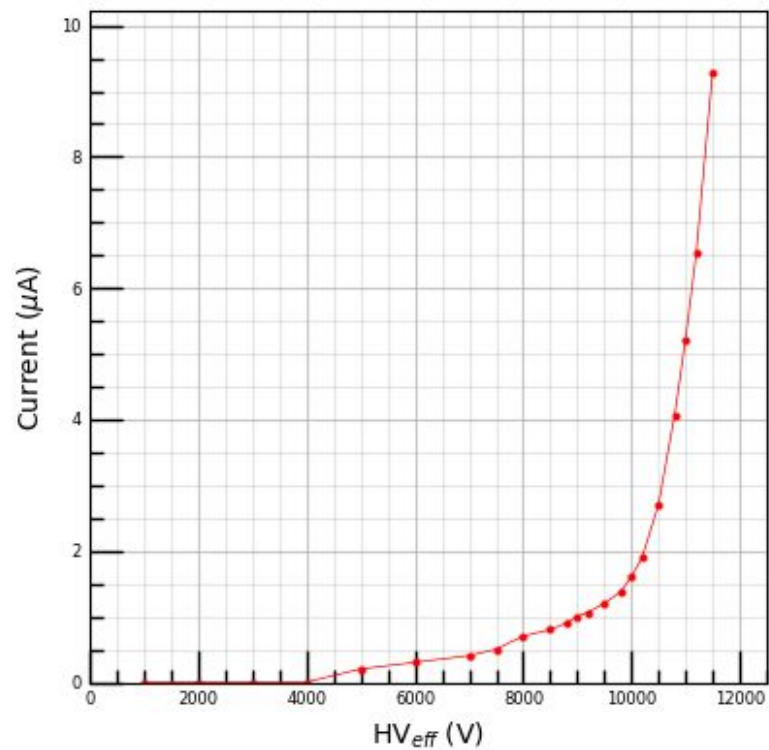
CMS-KODEL\_1-4-TOP



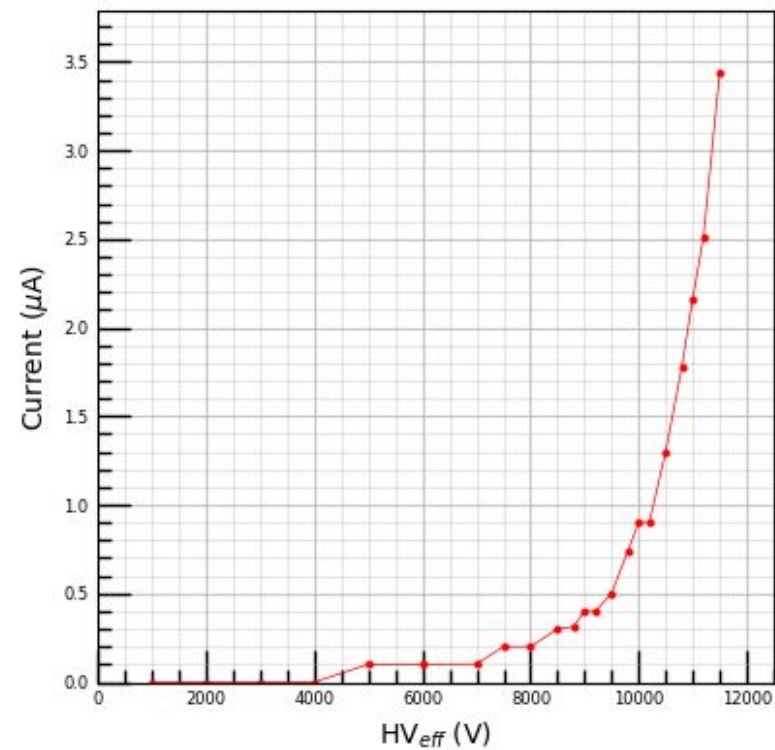
CMS-KODEL\_1-4-BOT



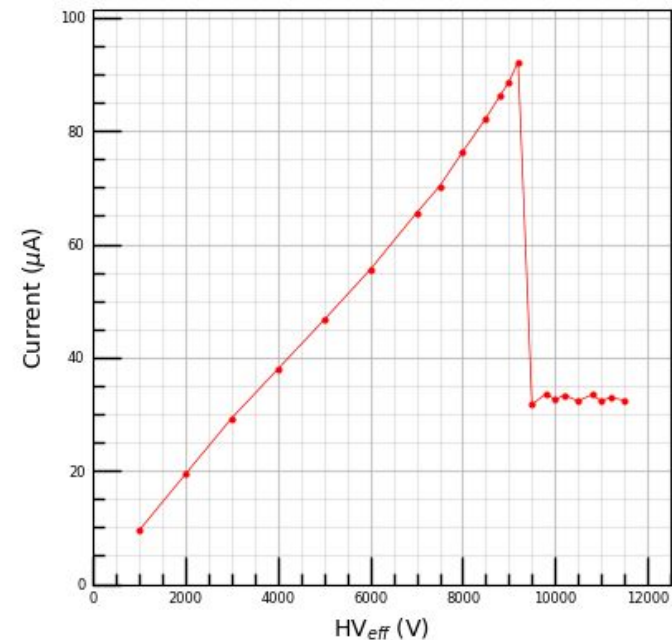
CMS-GT-2-0-TOP



CMS-GT-2-0-BOT



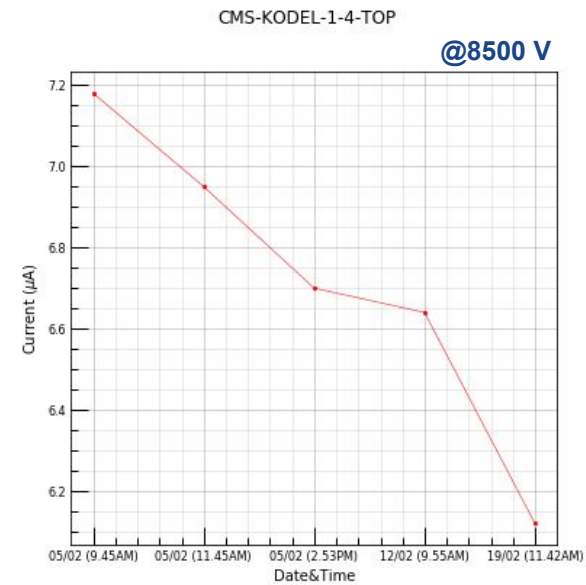
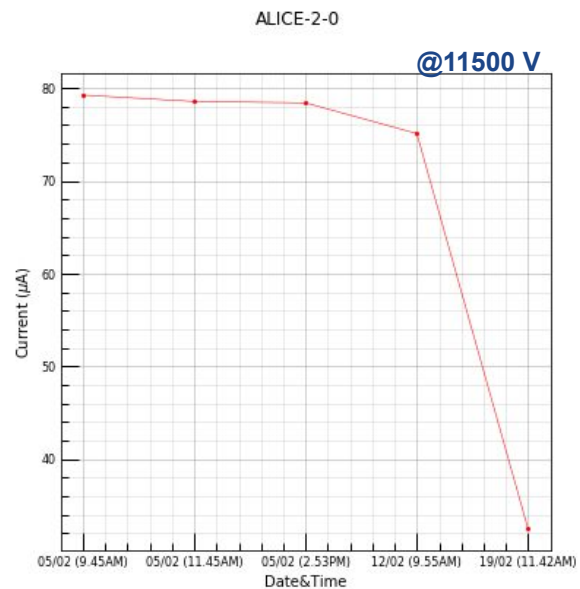
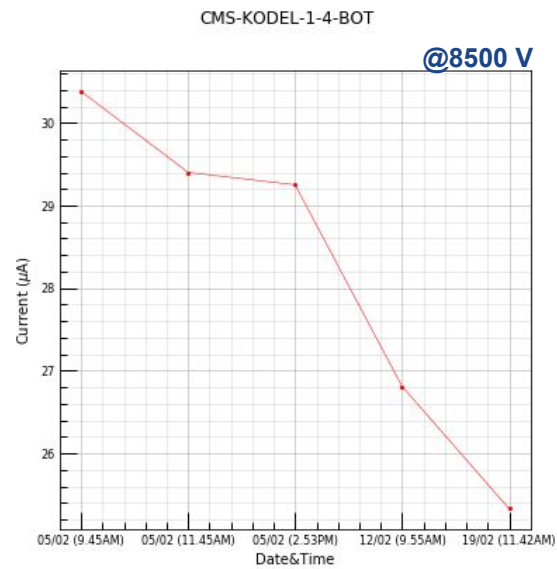
ALICE-2-0



Chamber/Gap	Dark current (µA) (@final HV point)
CMS-GT-2-0-BOT	3.44
CMS-GT-2-0-TOP	9.29
CMS-KODEL-1-4-BOT	25.33
CMS-KODEL-1-4-TOP	6.12
ALICE-2-0	32.44

- Chamber EPDT3 was removed on wednesday

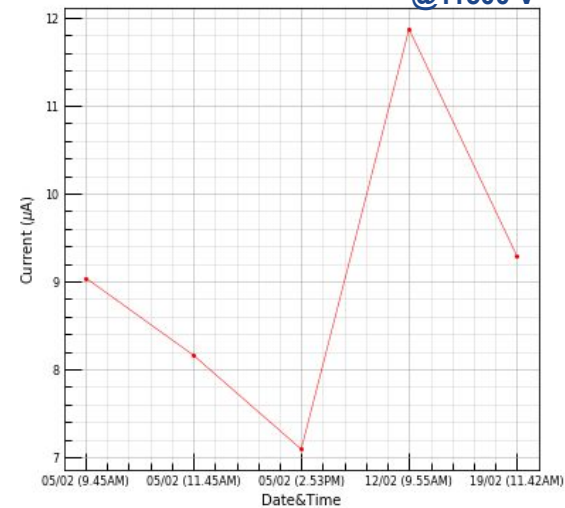
# Dark current monitoring-summary (February)



# Dark current monitoring-summary (February)

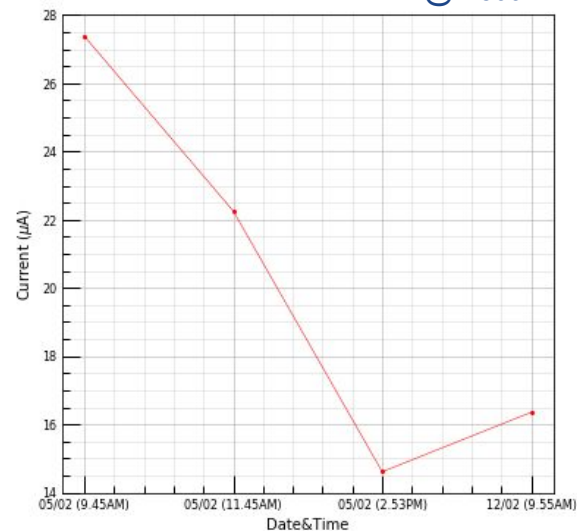
CMS-GT-2-0-TOP

@11500 V



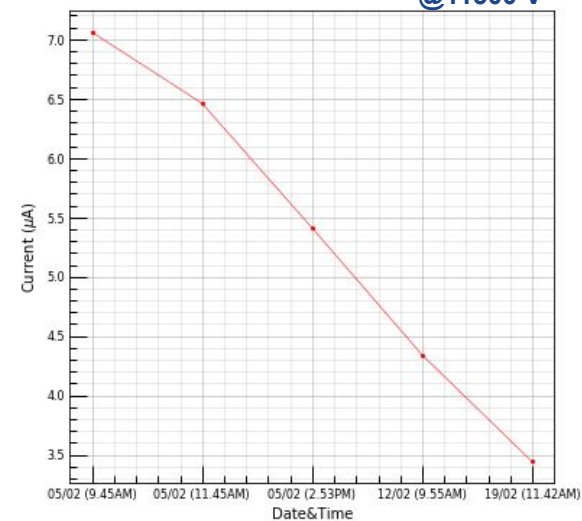
EPDT-RPC-3

@11500 V



CMS-GT-2-0-BOT

@11500 V



# Summary

- Total gas flow and dew point decreased due insufficient supply of CO<sub>2</sub>
- Dark current monitored during HV scan (19/02/2020) is pretty high for CMS-KODEL\_1-4-BOT (25.33  $\mu$ A) gap and ALICE chamber (32.44  $\mu$ A)
- Removed chamber EPDT3 on wednesday
- CMS-GT\_2-0 gap is showing unexpected behaviour in terms of dark current
- New HV scan started today @10.04AM