

EPDT November TB

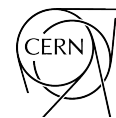
M. Verzeroli on behalf of EPDT team

ECOGAS@GIF++ COLLABORATION



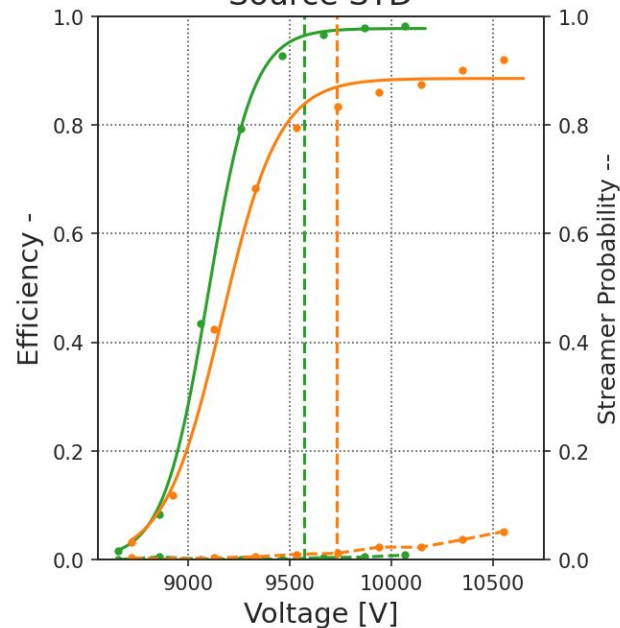
EP-DT
Detector Technologies

Efficiency curves



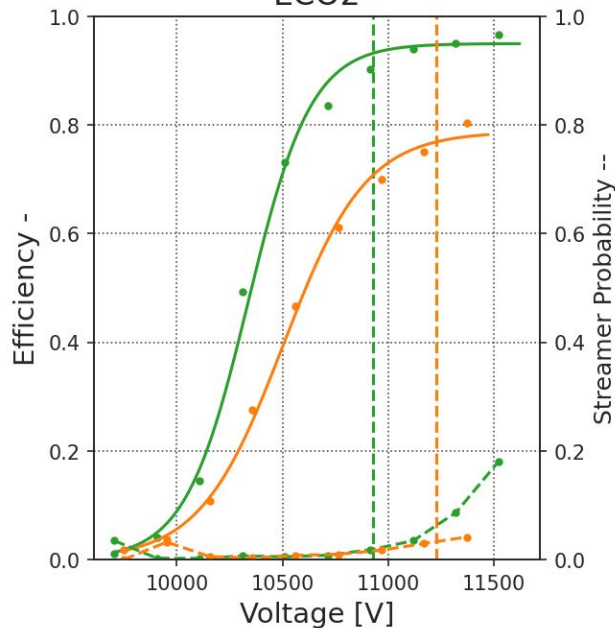
● Jul25, Eff: 97.75 %, SP: 0.24 %, WP: 9572 V
● Nov25, Eff: 88.55 %, SP: 1.16 %, WP: 9730 V

Source STD



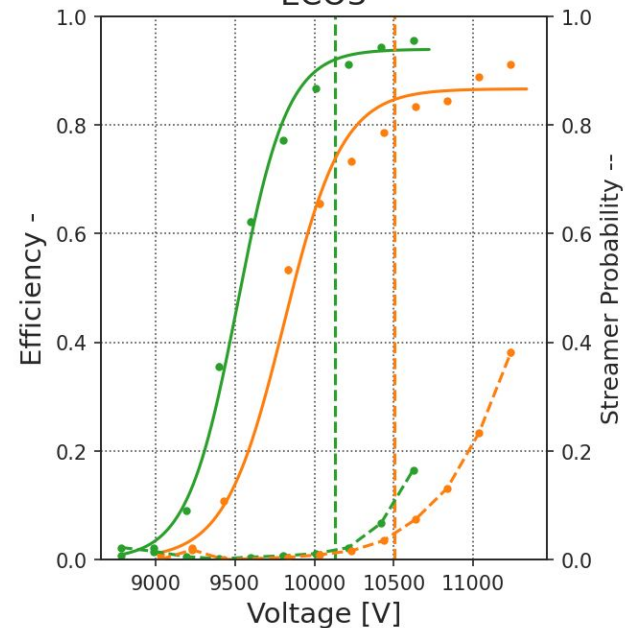
● Jul25, Eff: 94.97 %, SP: 1.90 %, WP: 10928 V
● Nov25, Eff: 78.76 %, SP: 3.30 %, WP: 11229 V

ECO2

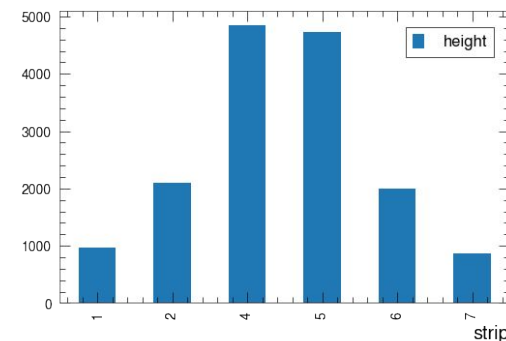


● Jul25, Eff: 93.93 %, SP: 1.76 %, WP: 10132 V
● Nov25, Eff: 86.64 %, SP: 4.79 %, WP: 10503 V

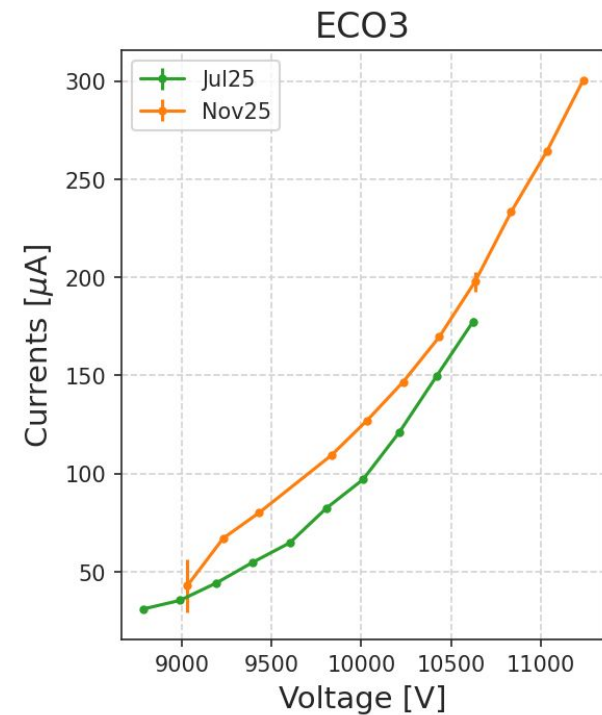
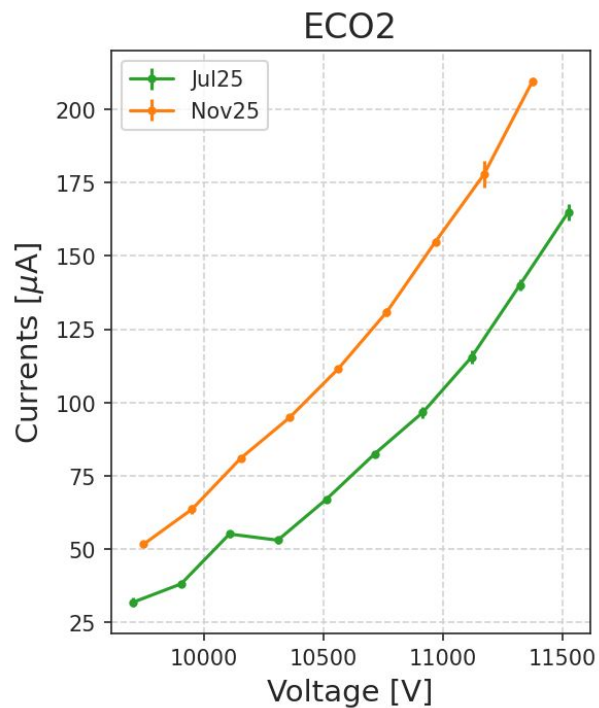
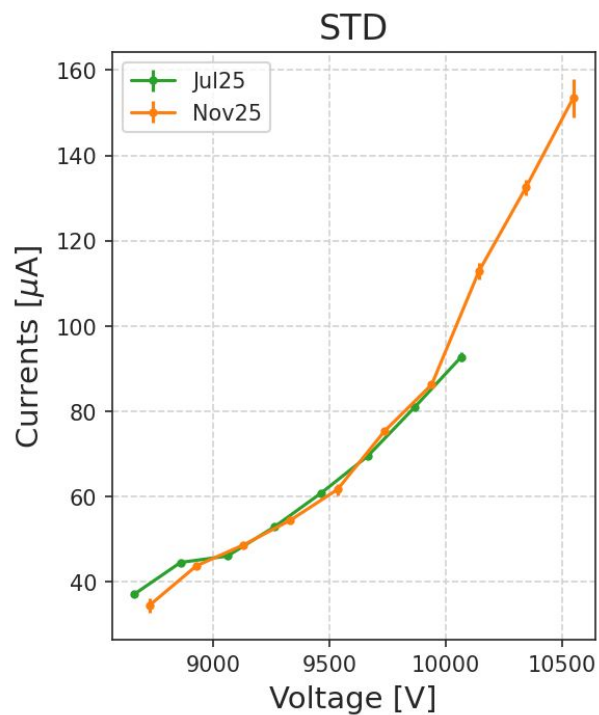
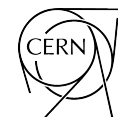
ECO3



- Detector not reaching maximum efficiency;
- Correct alignment and signal time windows



Current curves

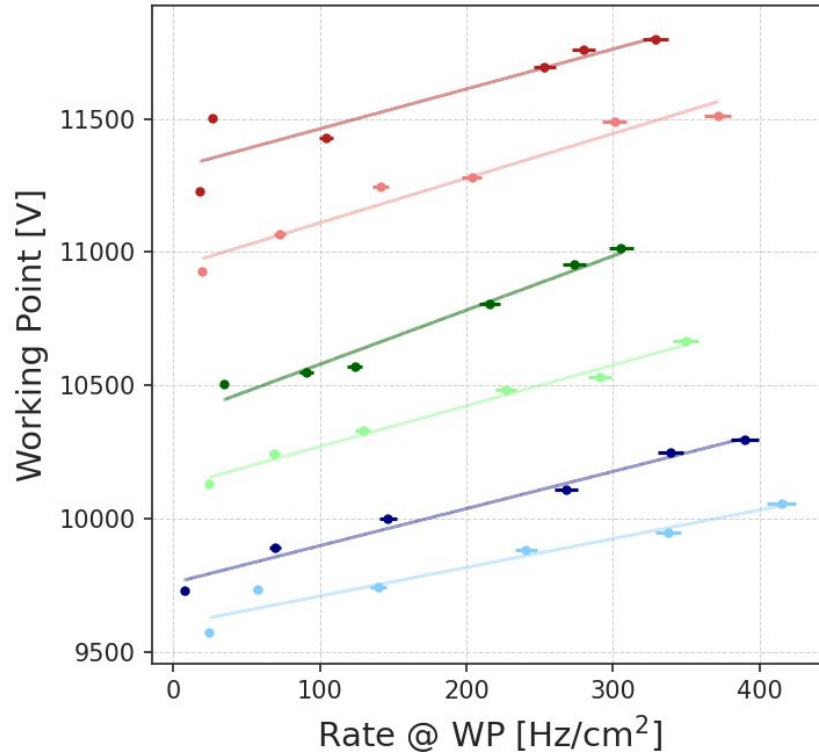


- Similar current for the STD, but $\sim \times 2$ for ECO2 and +25 μA for ECO3

vs Rate



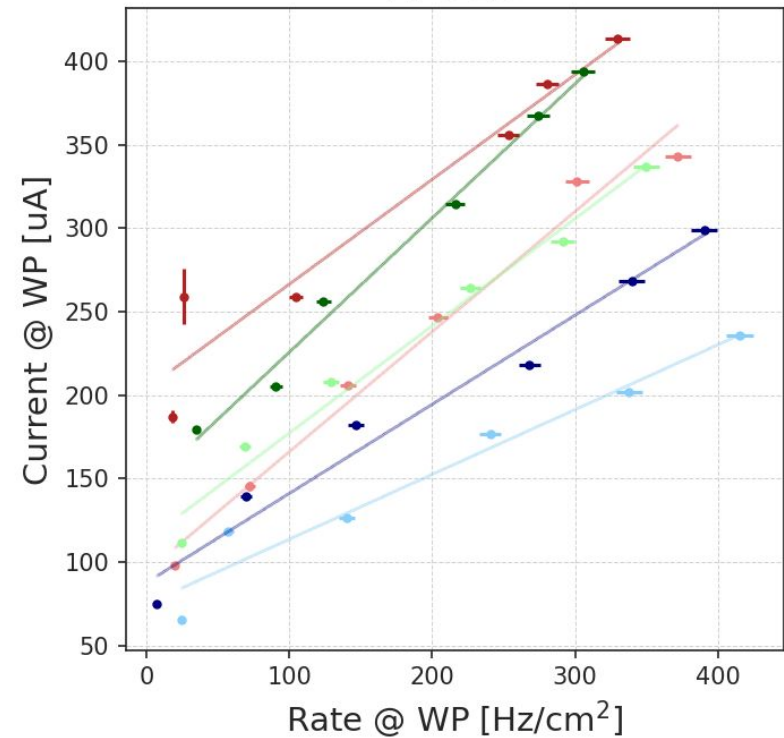
RPC 25



- Can be misleading due to a wrong estimation of the WP

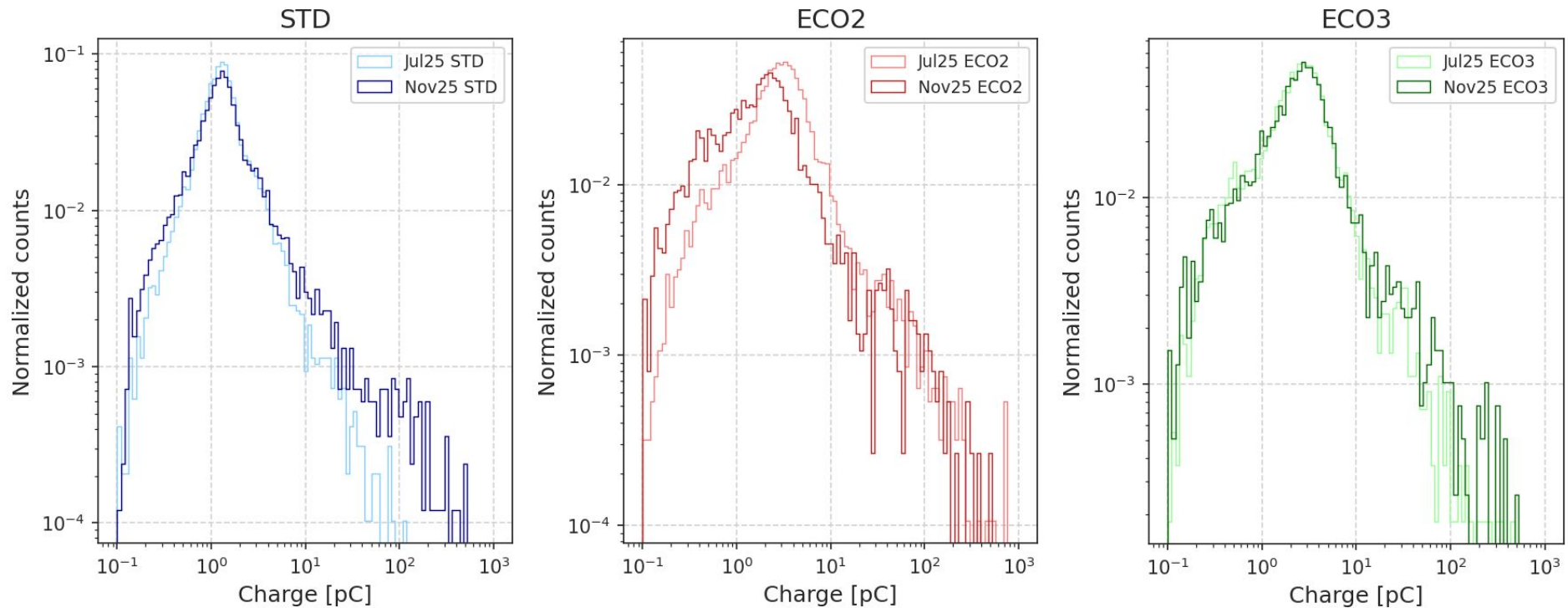
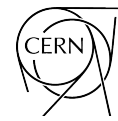
- Jul25, ECO2, Ang. Coef.: 1.67
WP @200 Hz/cm²: 11279V
- Jul25, ECO3, Ang. Coef.: 1.53
WP @200 Hz/cm²: 10425V
- Jul25, STD, Ang. Coef.: 1.08
WP @200 Hz/cm²: 9819V
- Nov25, ECO2, Ang. Coef.: 1.49
WP @200 Hz/cm²: 11614V
- Nov25, ECO3, Ang. Coef.: 2.03
WP @200 Hz/cm²: 10785V
- Nov25, STD, Ang. Coef.: 1.39
WP @200 Hz/cm²: 10040V

RPC 25



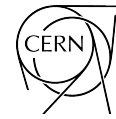
- Jul25, ECO2, Ang. Coef.: 0.72
Current @200 Hz/cm²: 239uA
- Jul25, ECO3, Ang. Coef.: 0.64
Current @200 Hz/cm²: 242uA
- Jul25, STD, Ang. Coef.: 0.39
Current @200 Hz/cm²: 153uA
- Nov25, ECO2, Ang. Coef.: 0.63
Current @200 Hz/cm²: 330uA
- Nov25, ECO3, Ang. Coef.: 0.8
Current @200 Hz/cm²: 307uA
- Nov25, STD, Ang. Coef.: 0.53
Current @200 Hz/cm²: 195uA

Charge distribution



- No significant change in the charge distribution

Next step



- Exclude from Irradiation RPC 25
- Brought back to the lab and test ongoing with the STD gas mixture
 - > The suspect is the presence of a dead zone in the strip area