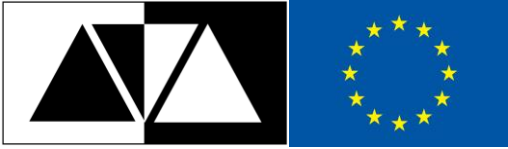


# Antiproton measurements

ADAMAS - Vienna, 14.12.2018

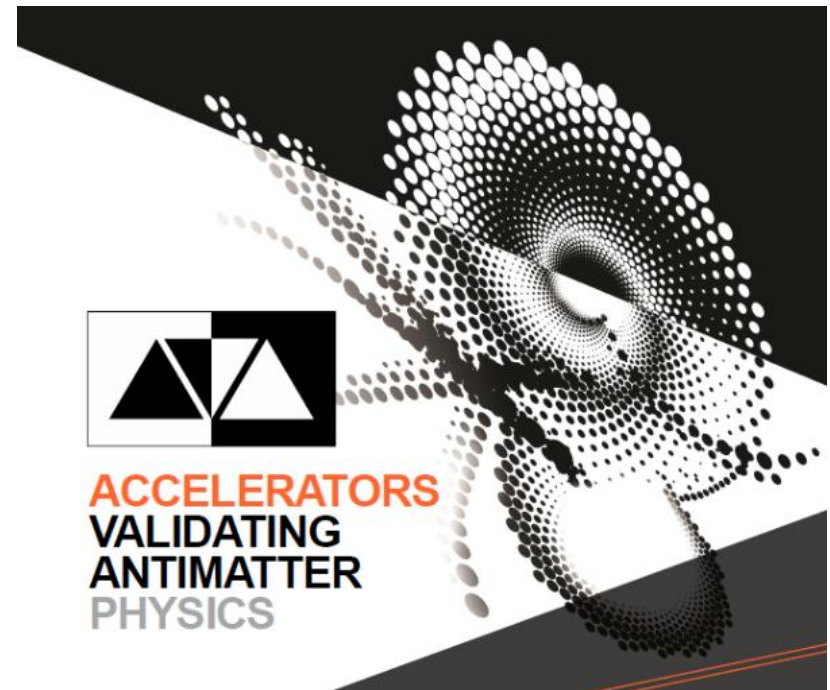
Miha Červ, CIVIDEC Instrumentation





# AVA

- ITN within Horizon 2020 Marie Curie actions
- 15 fellows from around the world
- Topic is antimatter





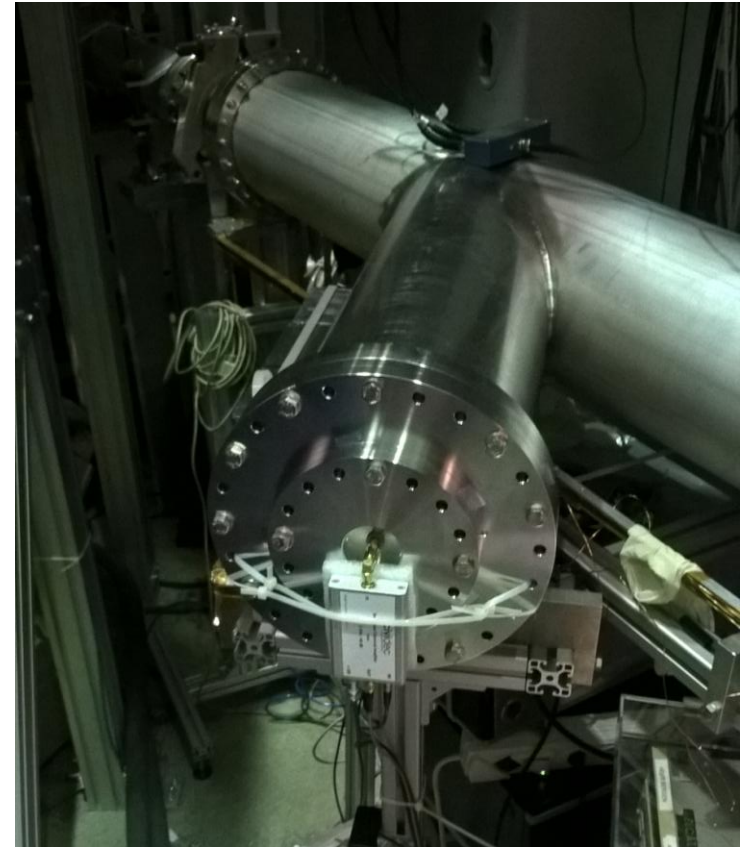
# My measurements

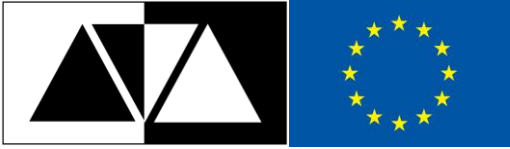
- Grace line at AEgIS at CERN
- Low energy antiprotons



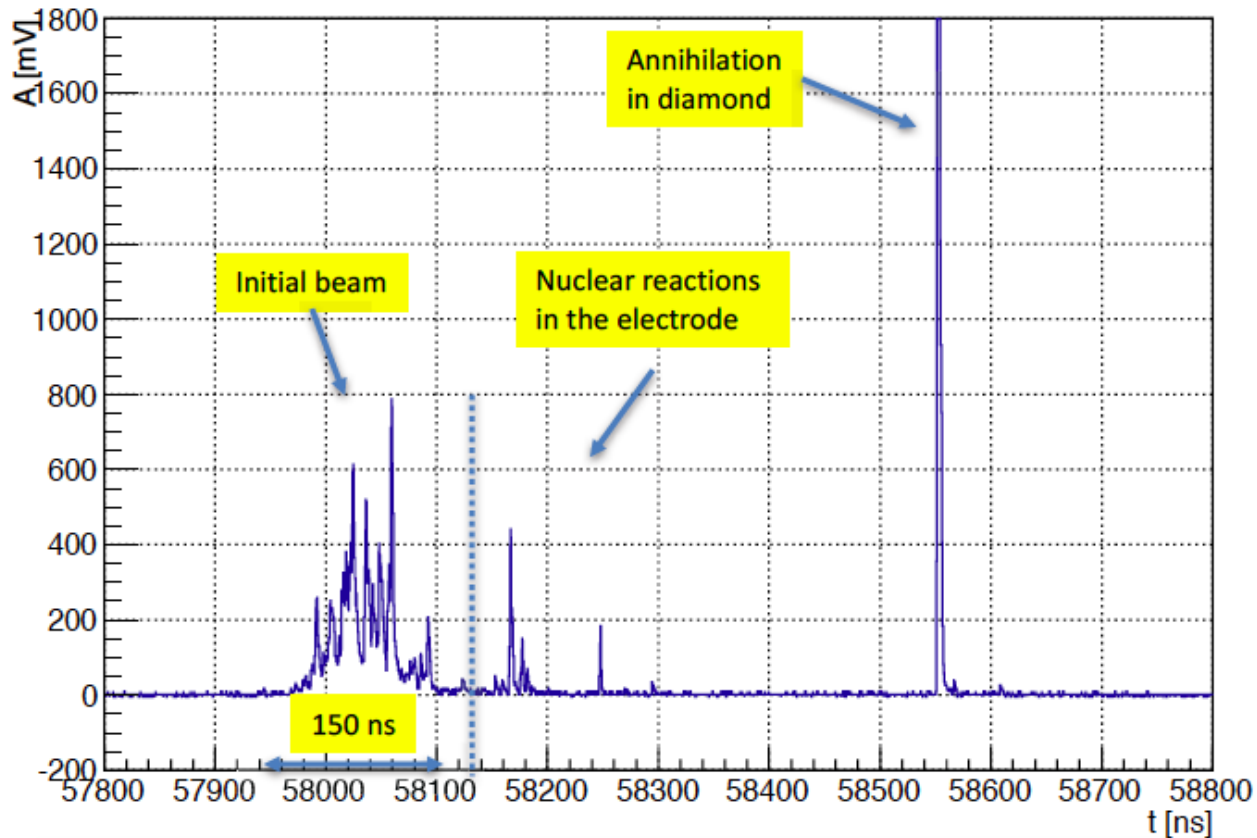
# Measurement setup

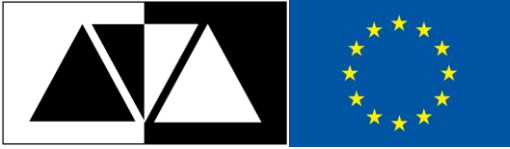
- Knopf detector
  - sCVD diamond
  - 500  $\mu\text{m}$  thickness
  - 4mm \* 4mm sensor area
- C2 current amplifier
- ROSY readout system



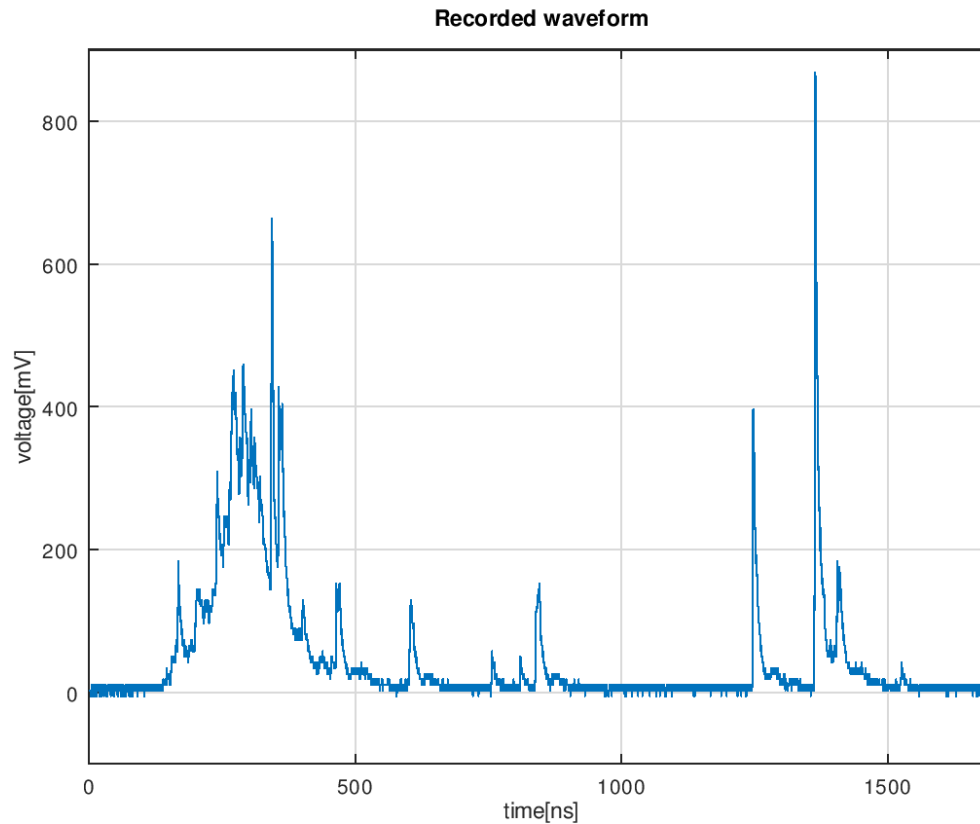


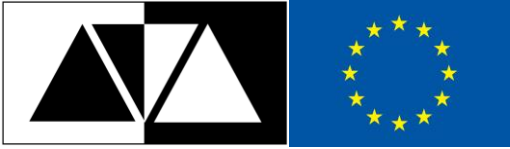
# Recorded waveforms (2017)



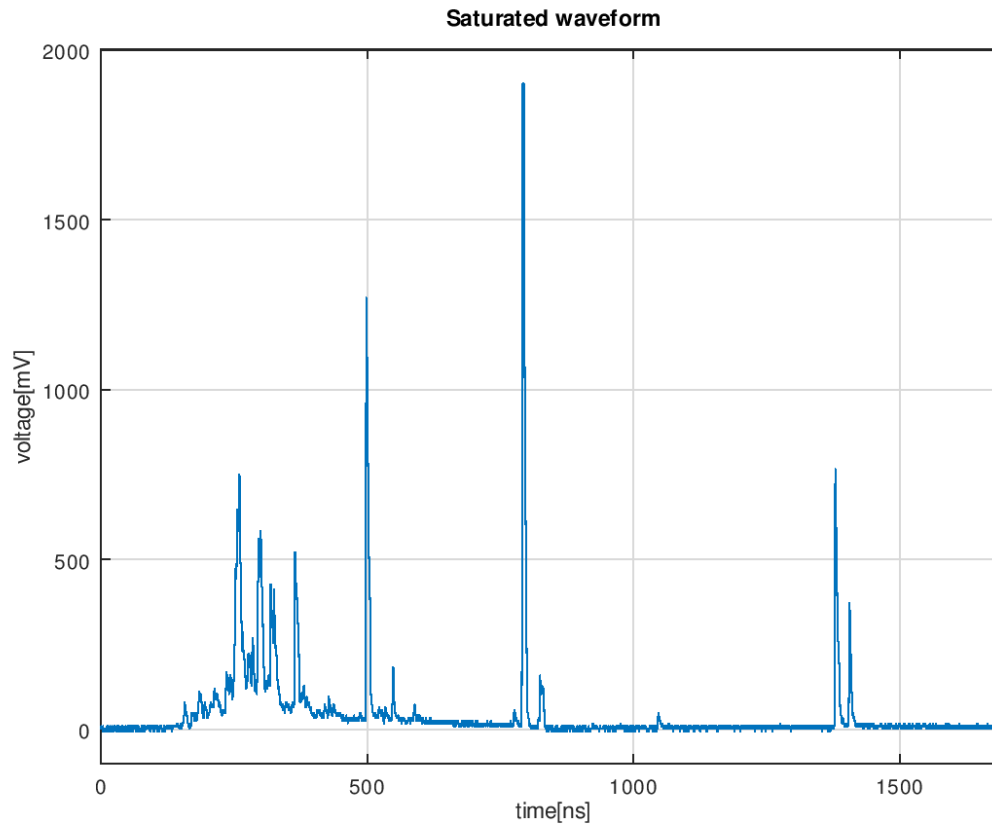


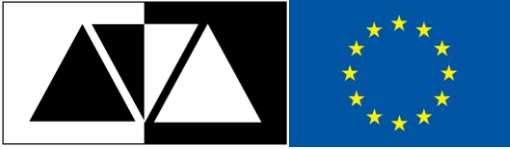
# Recorded waveforms (2017)



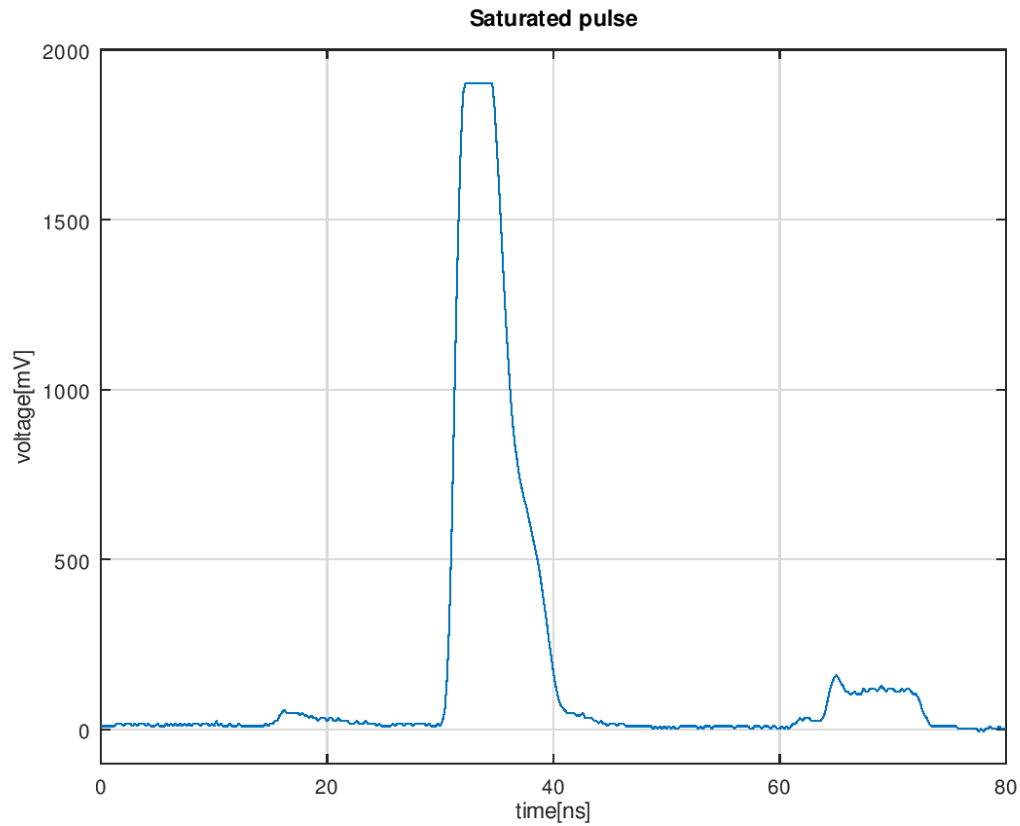


# Recorded waveforms (2017)

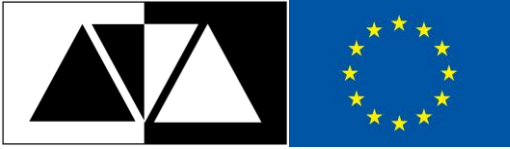




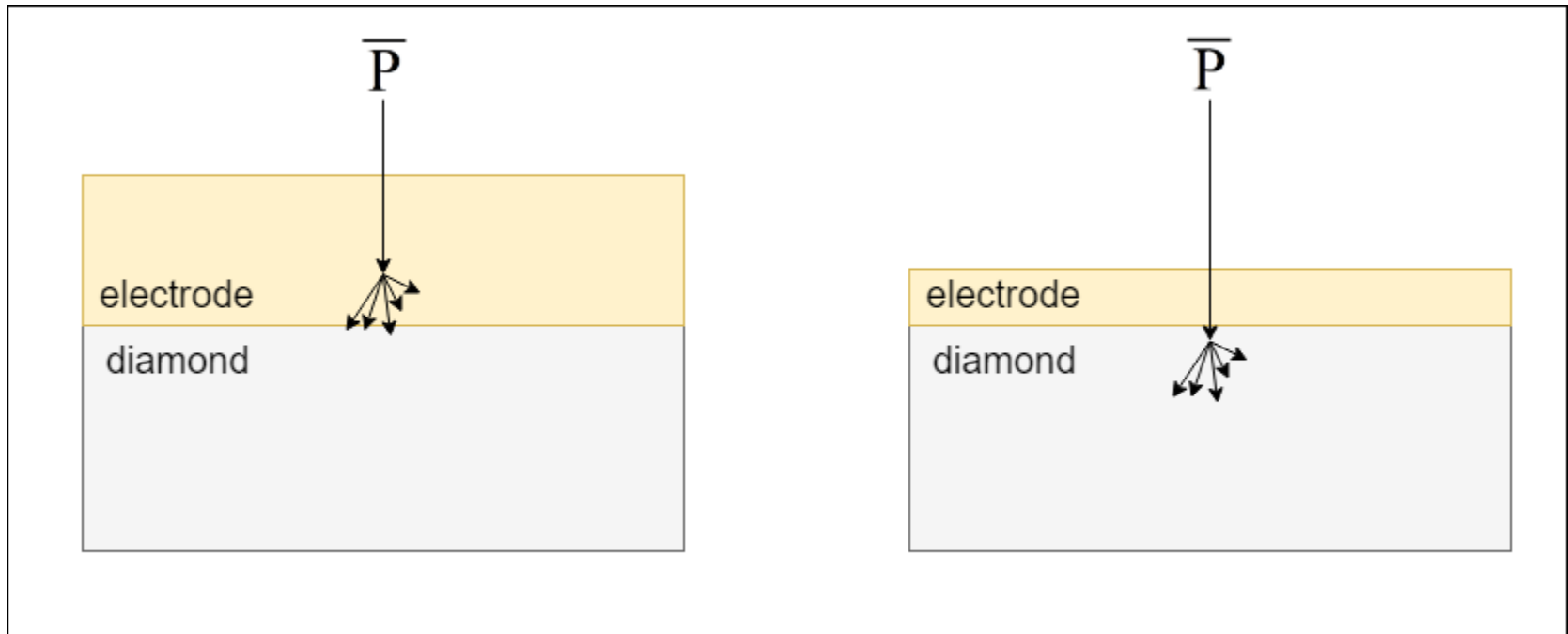
# Single pulse (2017)





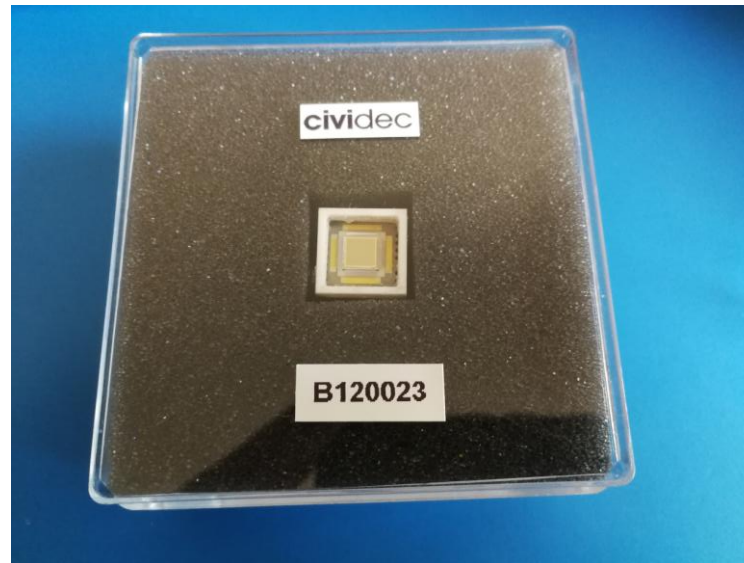


# Annihilation

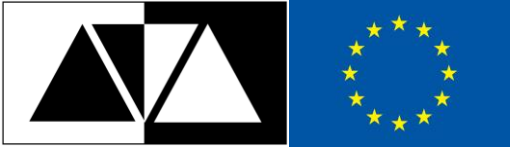


# Second measurement

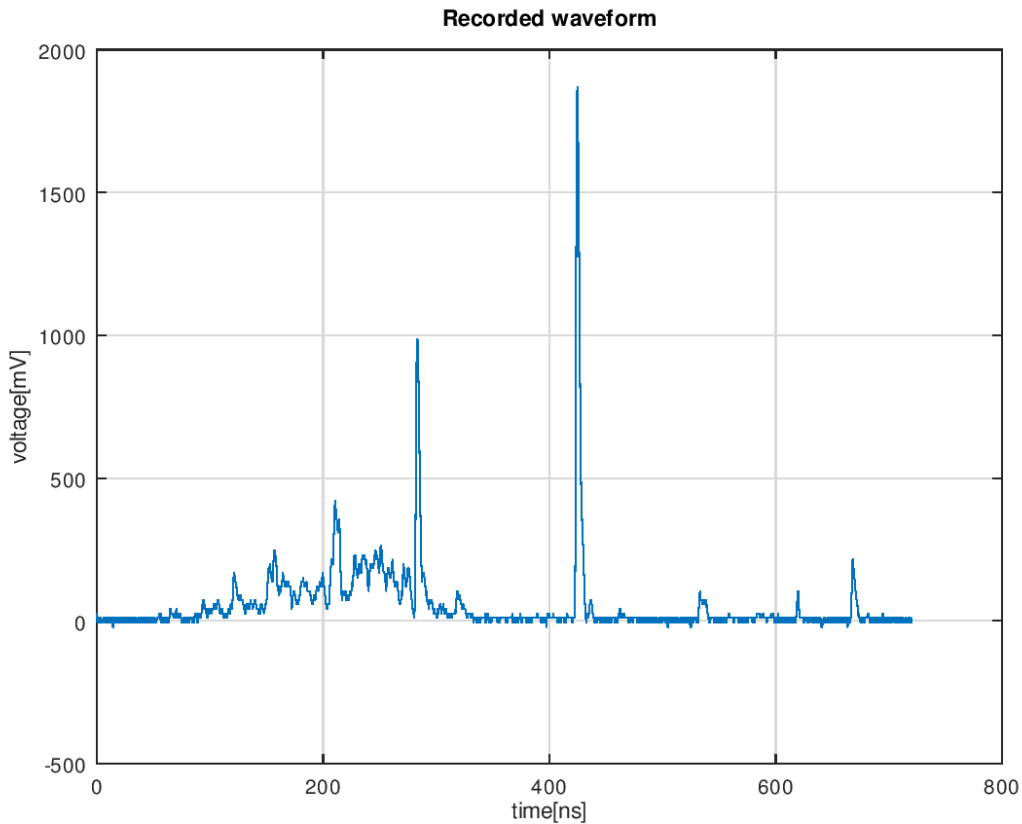
- Repeat measurements with 100 nm electrode
- Expect annihilation in the sensor

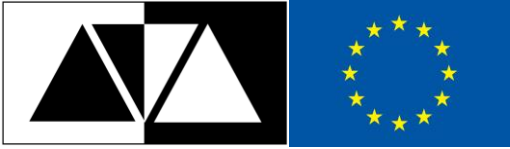


Thin electrode Knopf detector

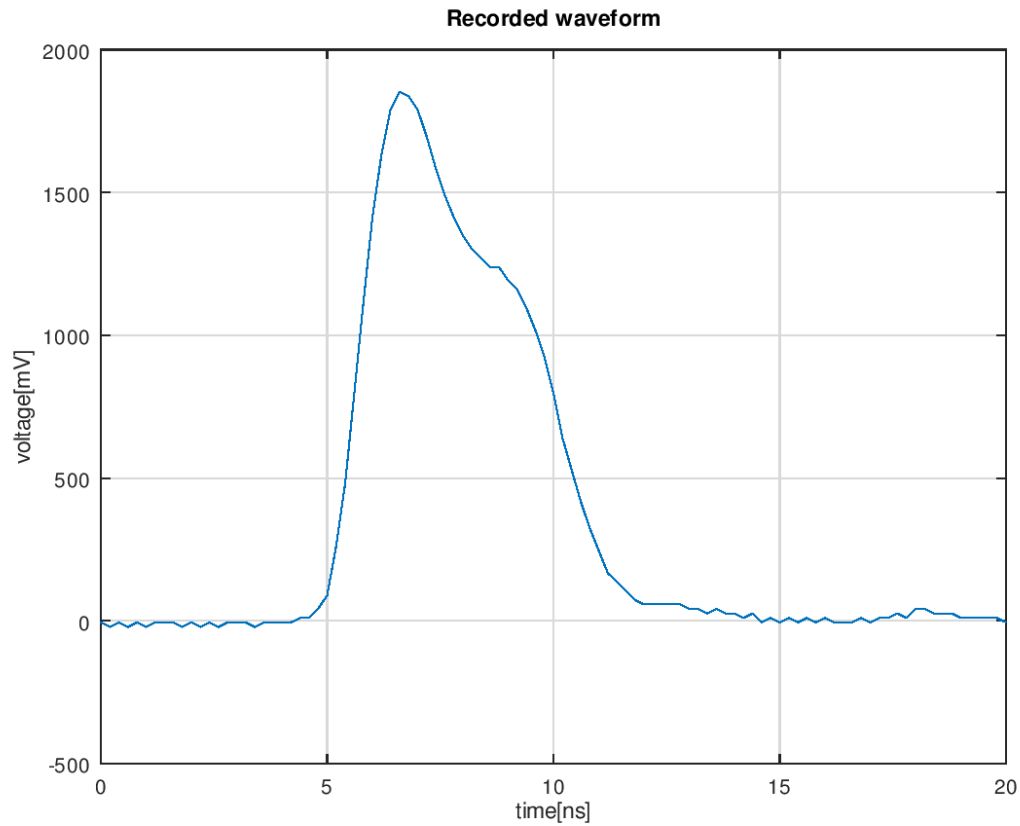


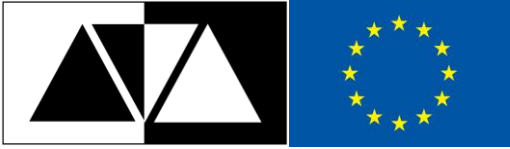
# Recorded waveforms (2018)



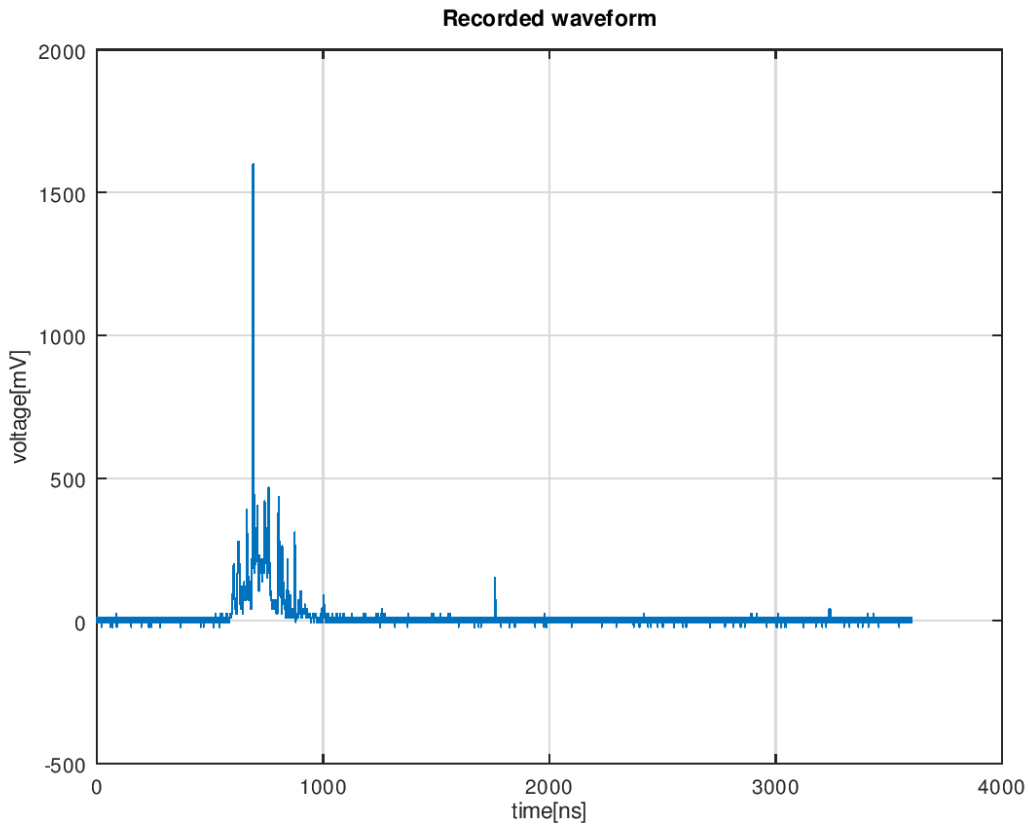


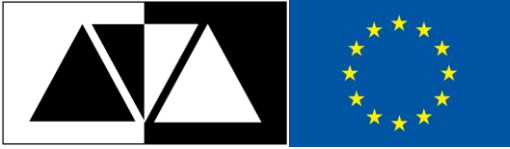
# Single pulse (2018)





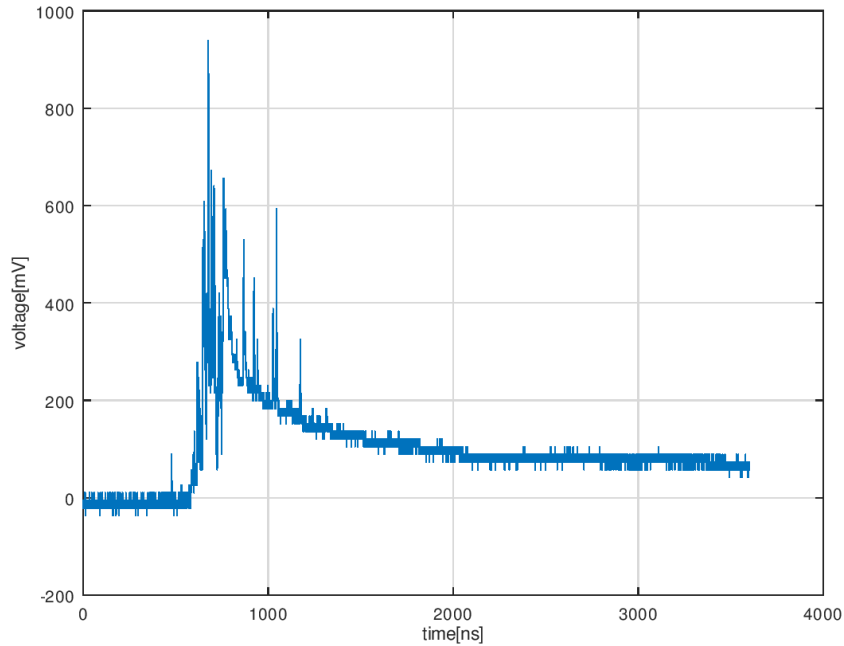
# Recorded waveforms (2018)



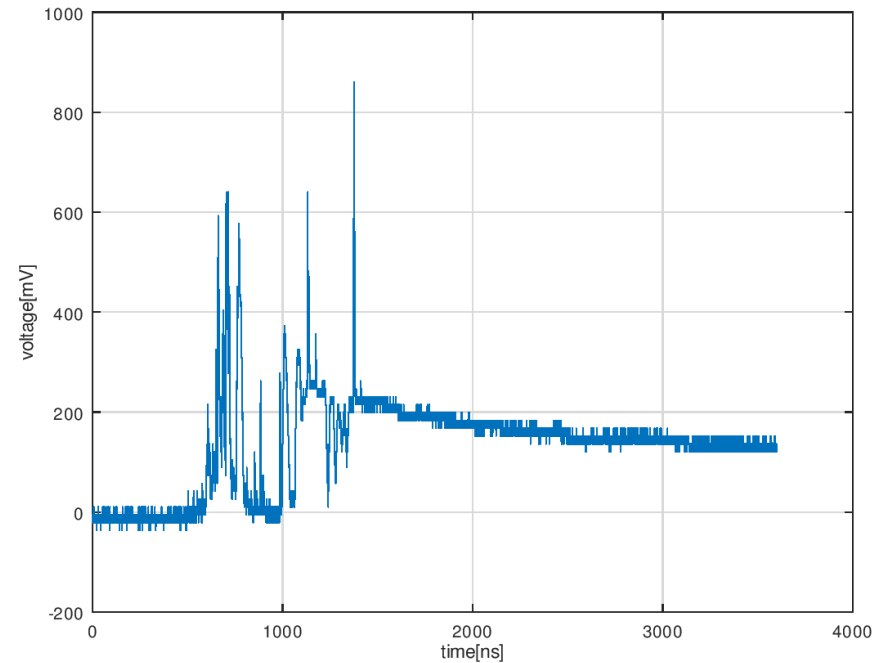


# Recorded waveforms (2018)

Recorded waveform



Recorded waveform



[www.cividec.at](http://www.cividec.at)

