

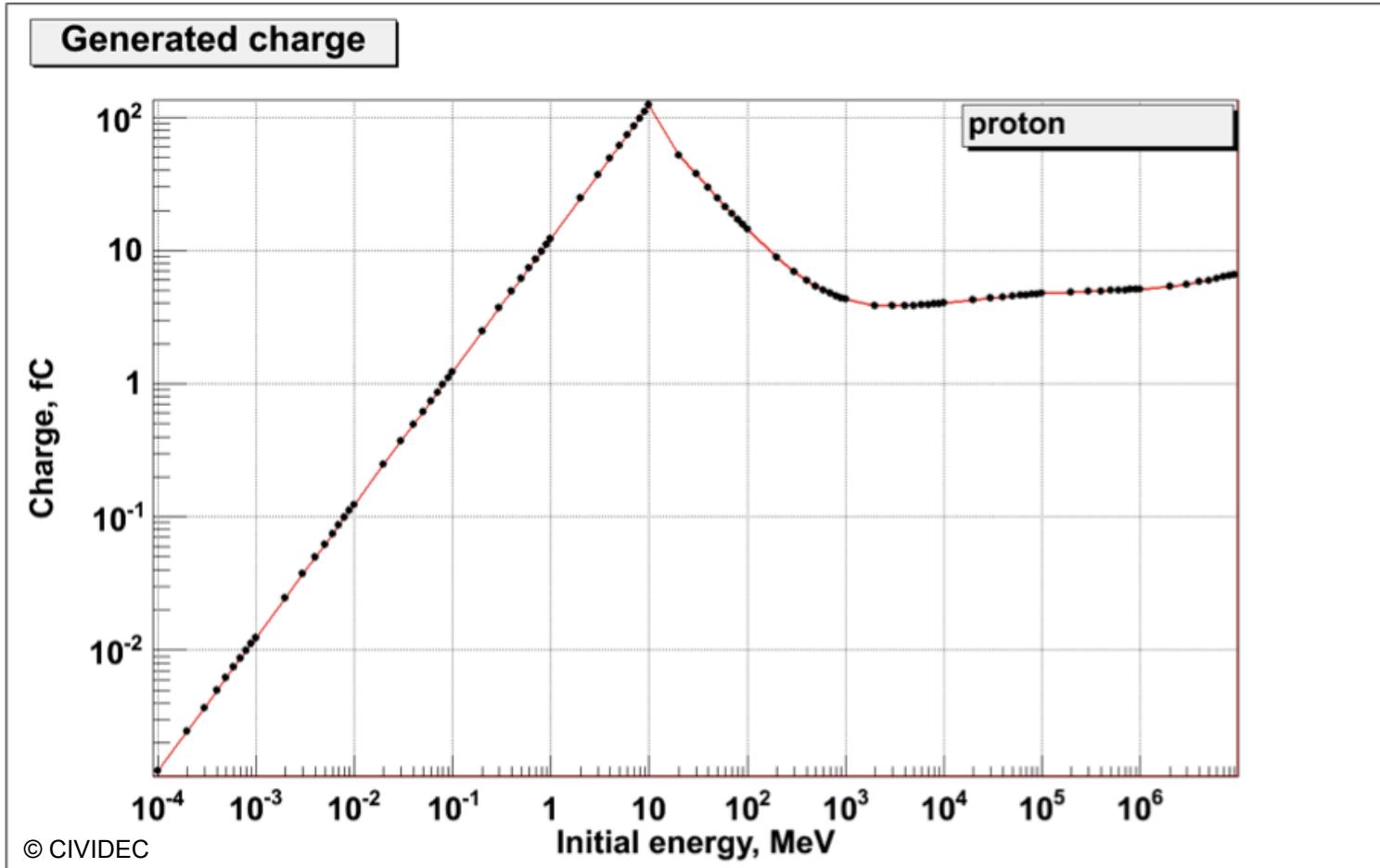
# **CIVIDEC**

# **Summary of 2012**

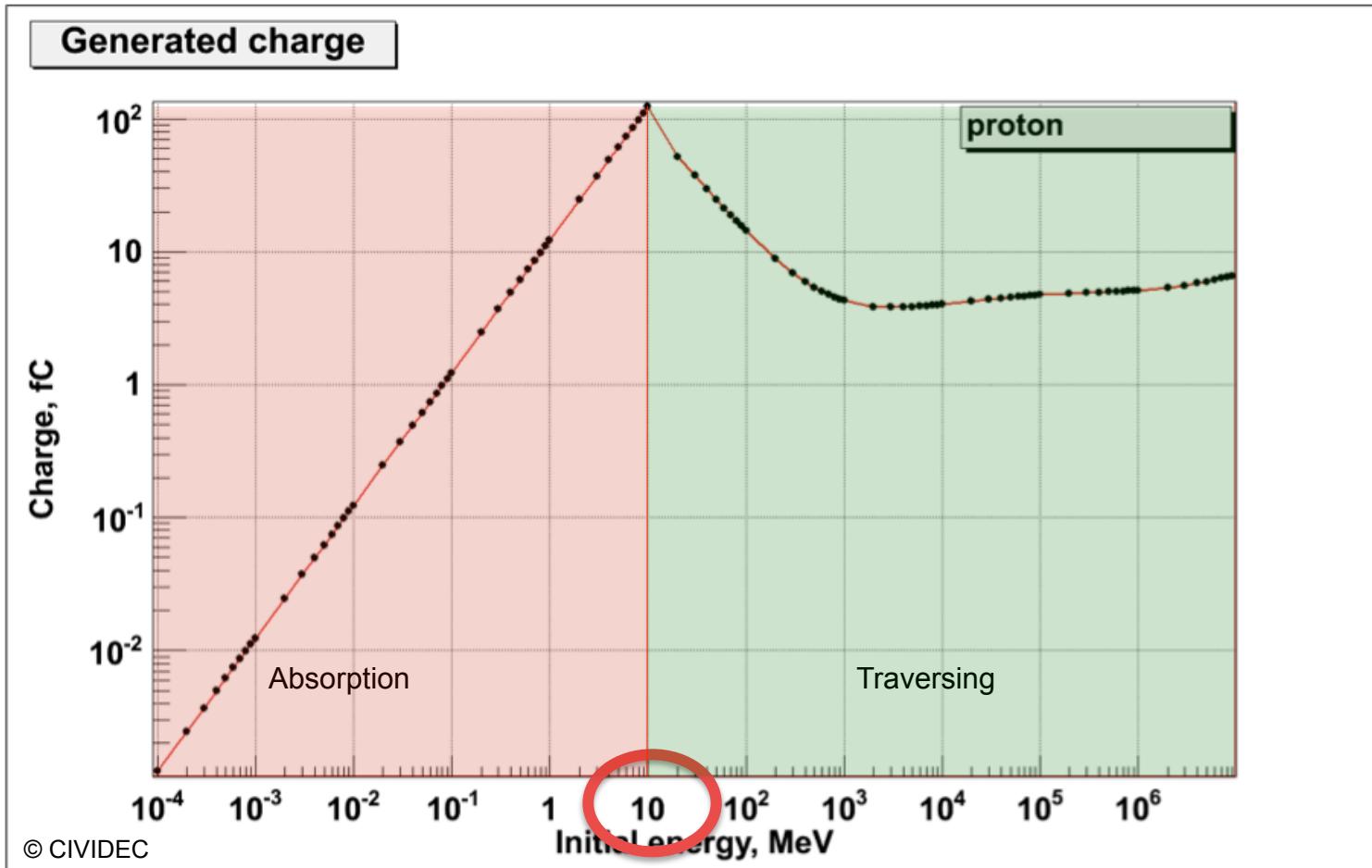
Erich Griesmayer

17. Dec. 2011

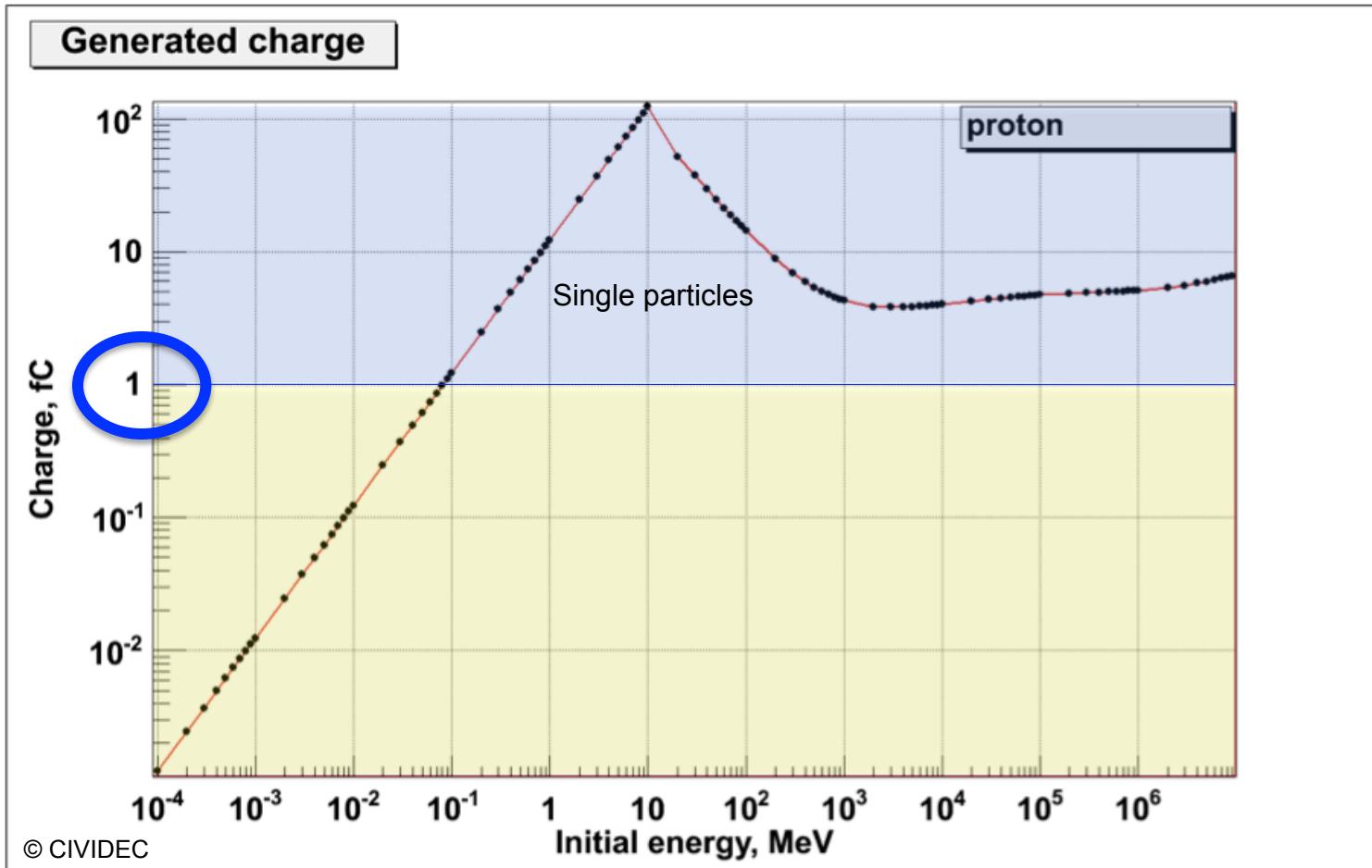
# Proton Interaction



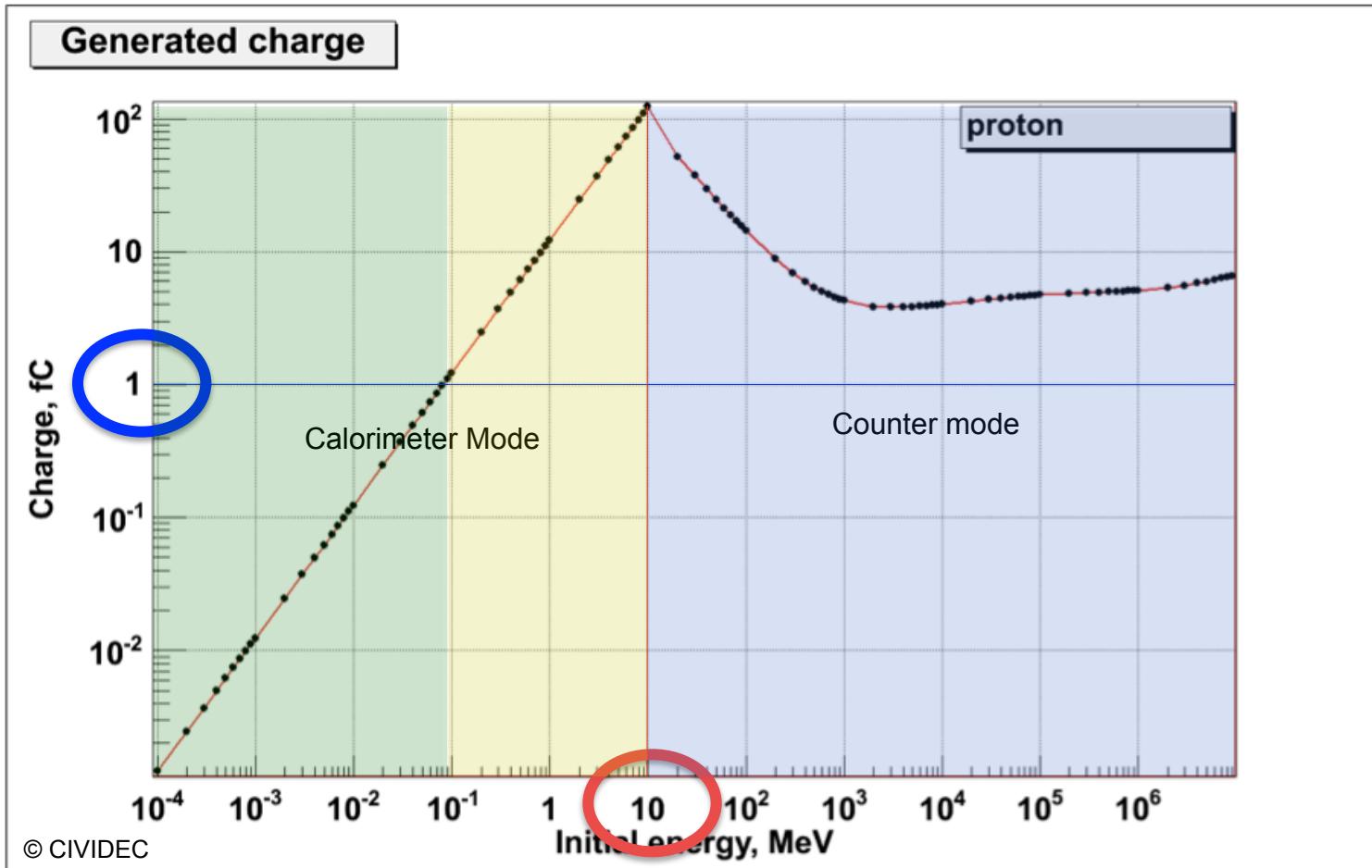
# Proton Interaction



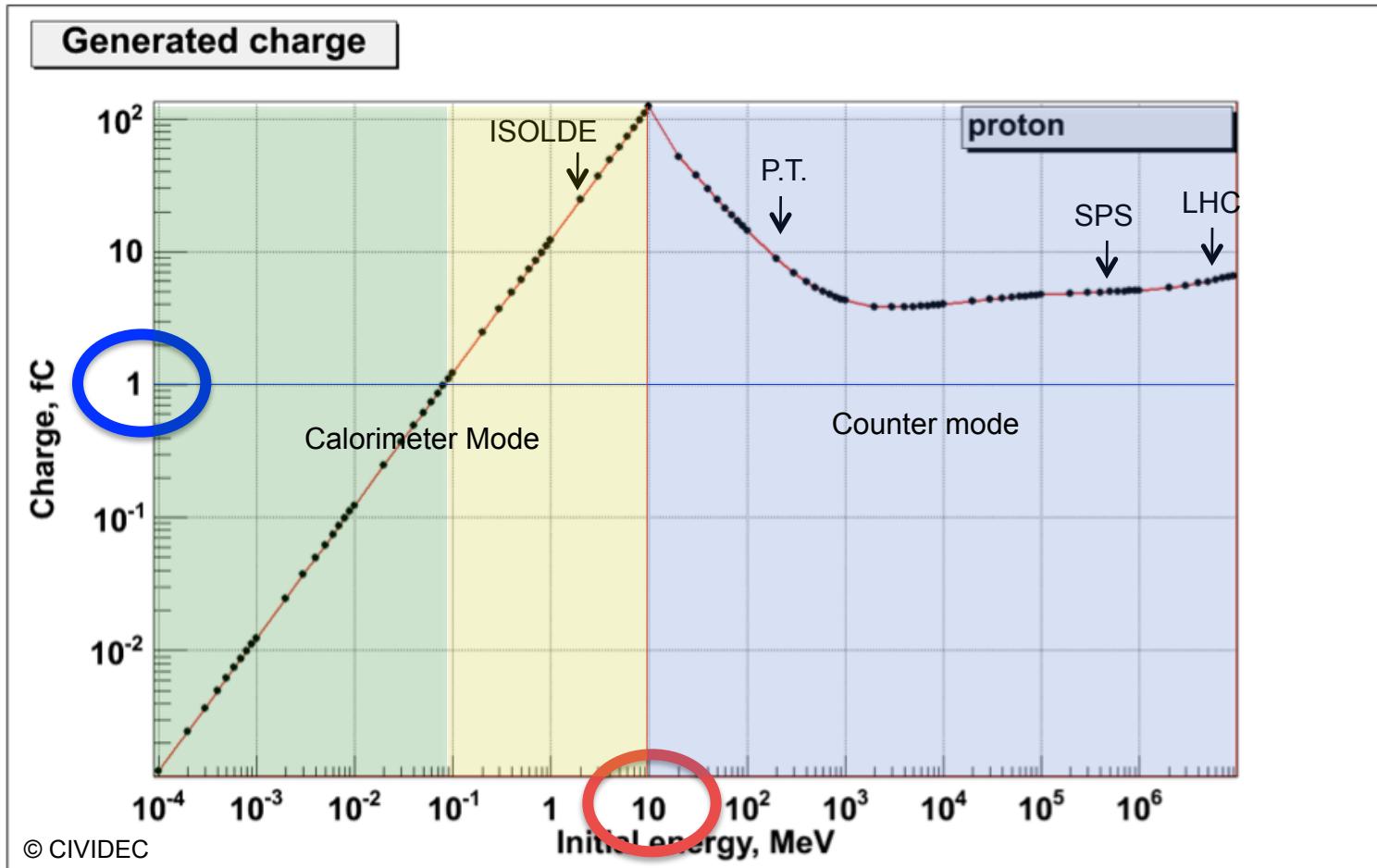
# Proton Interaction



# Proton Interaction

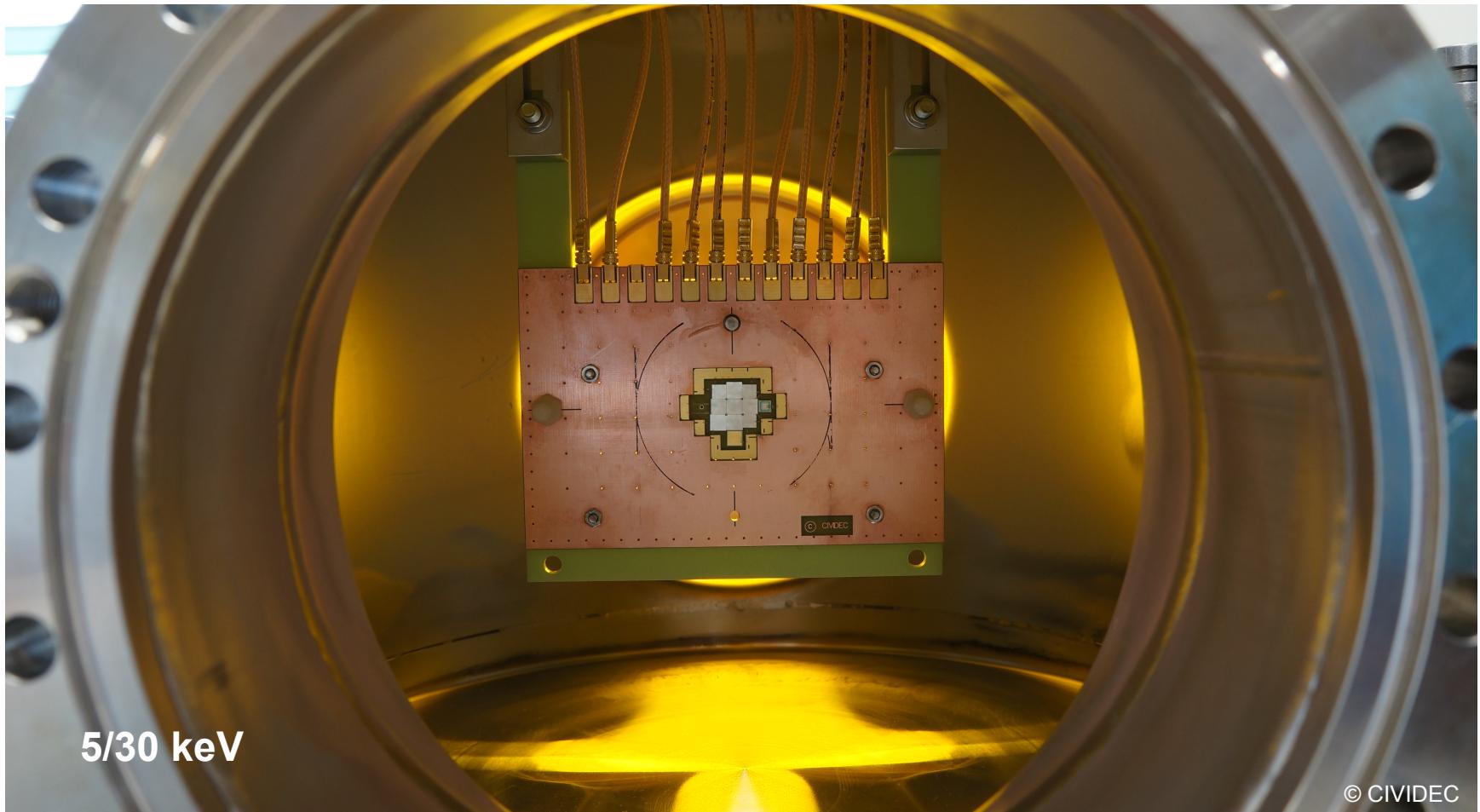


# Proton Interaction



# **Applications 2012**

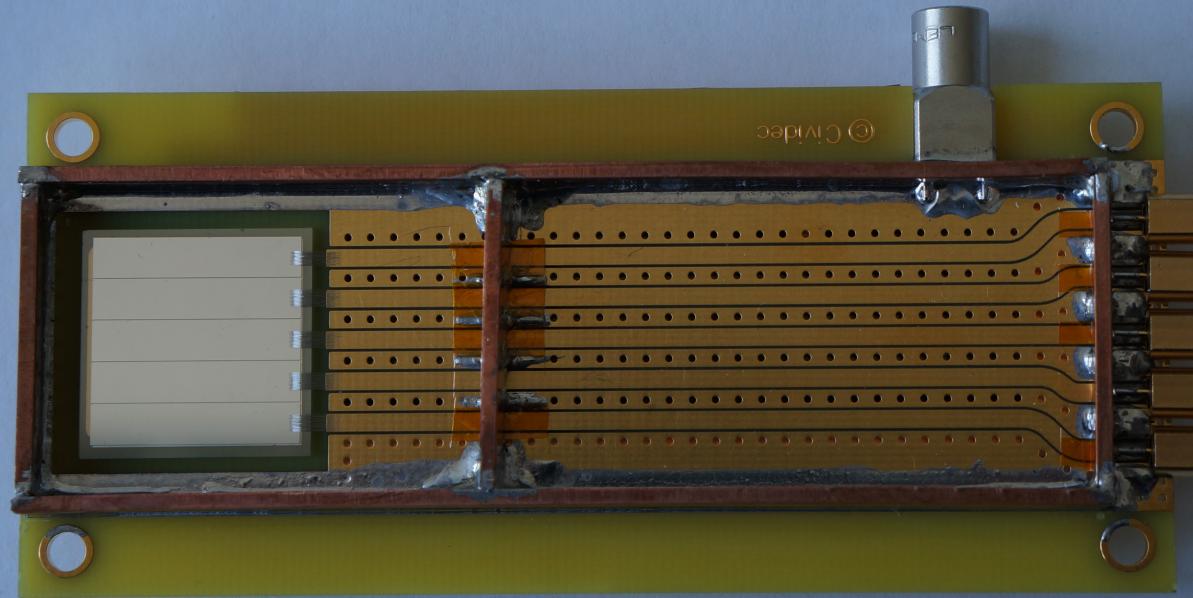
# Neutron Spectroscopy



5/30 keV

© CIVIDEC

# CERN LINAC 4



180 MeV

© CIVIDEC

# Medical Application



23 ps

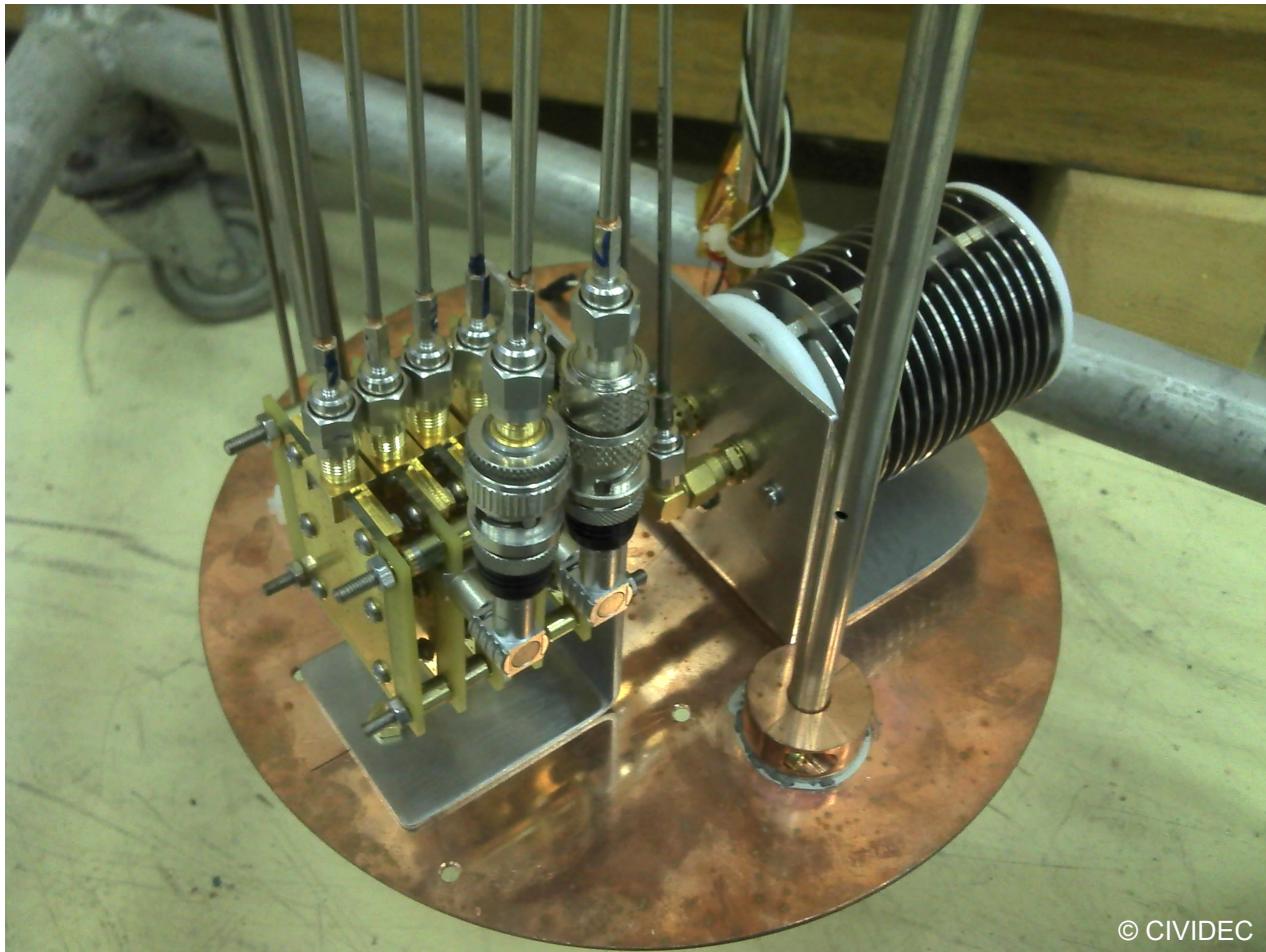
© CIVIDEC

# sCVD Detector



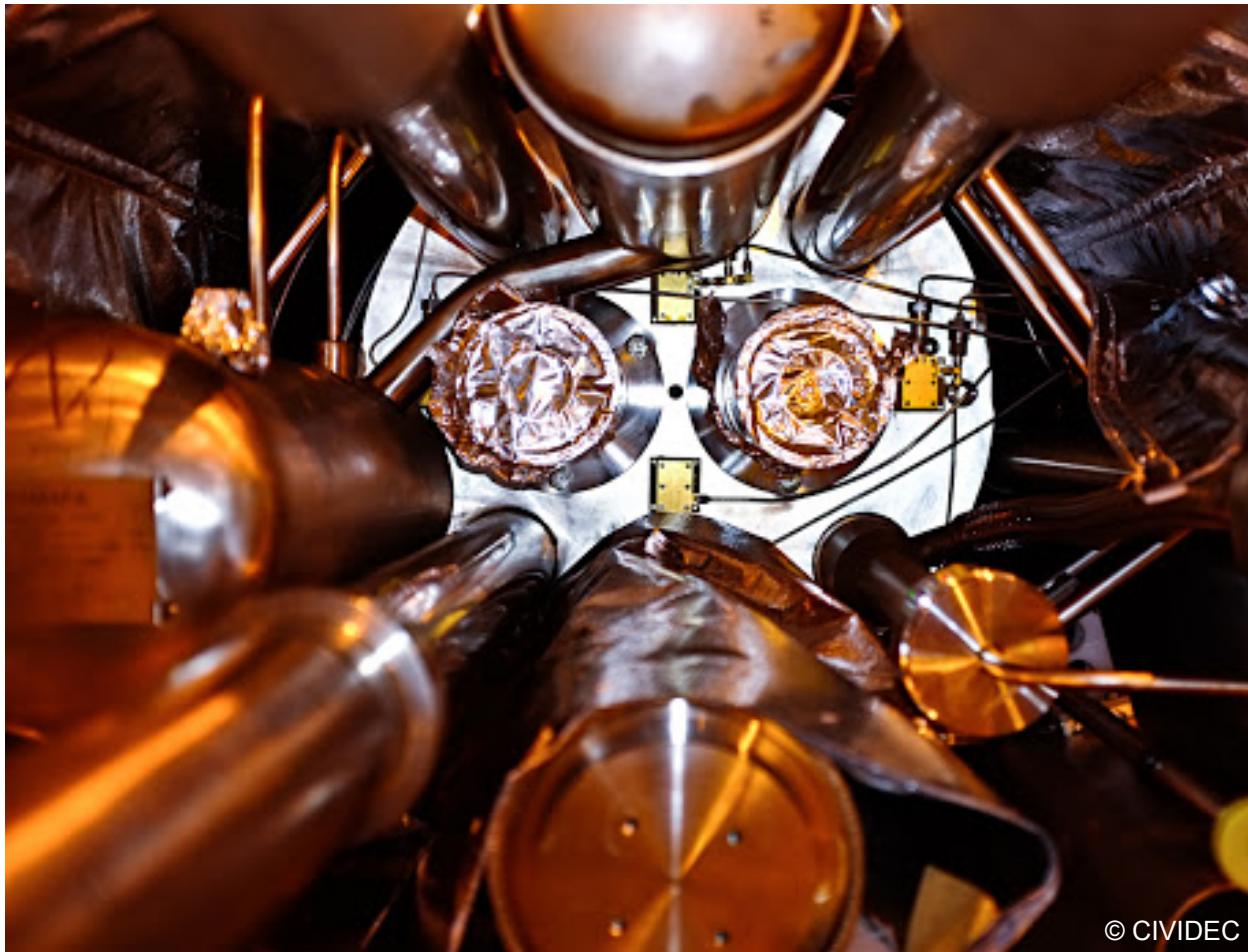
© CIVIDEC

# 2K Setup



© CIVIDEC

# LHC Test



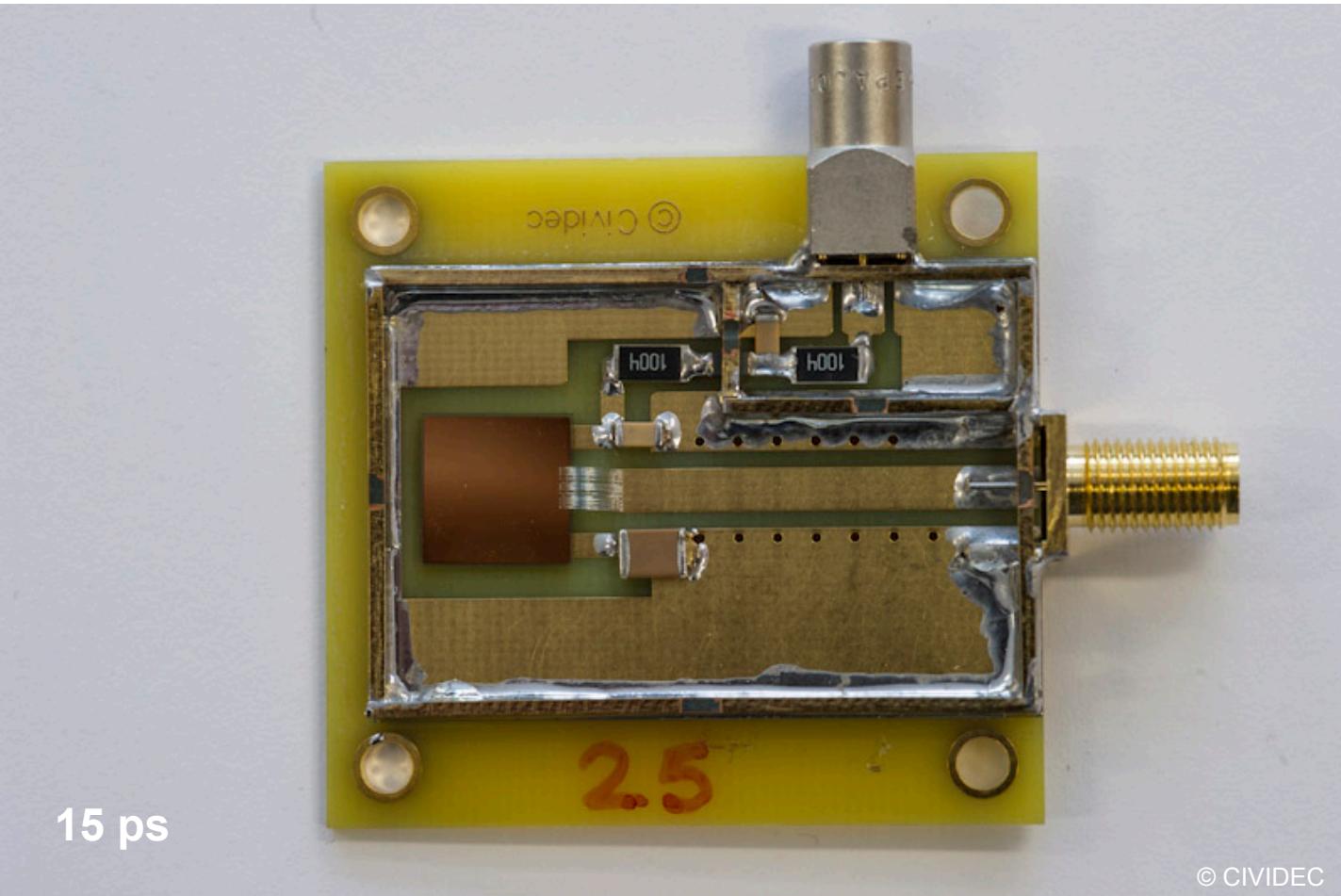
© CIVIDEC

# PS Test



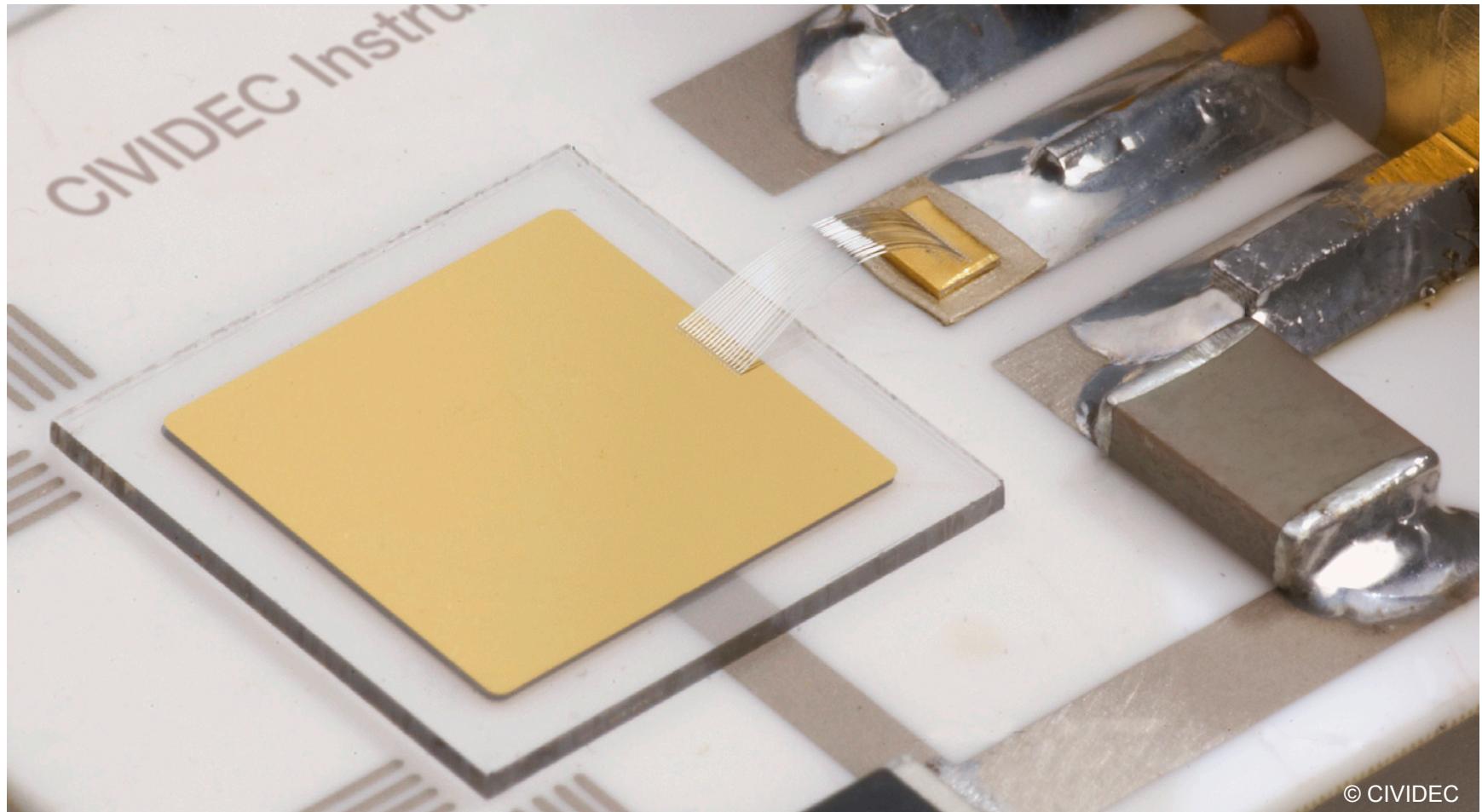
© CIVIDEC

# CNGS



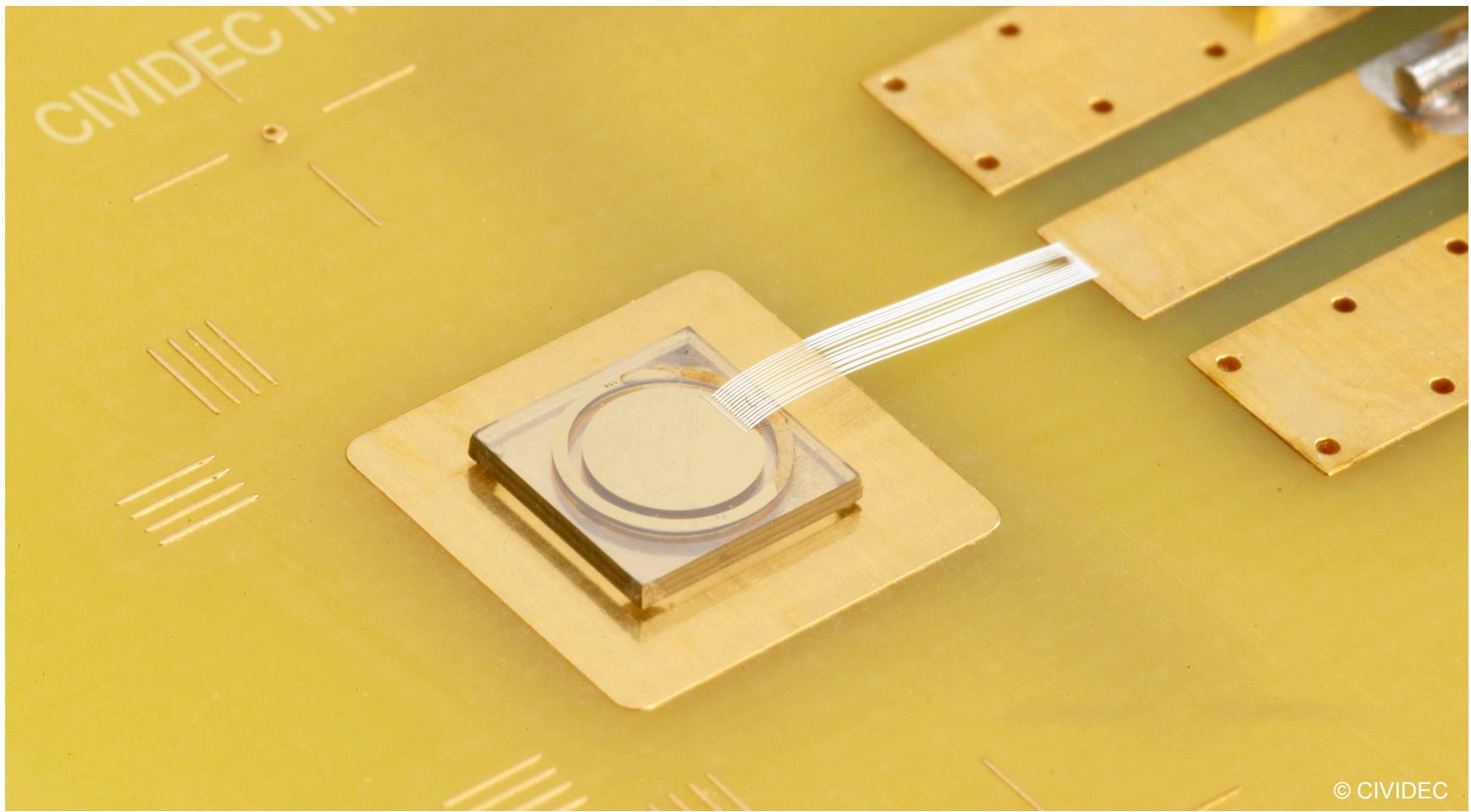
# **Products**

# pCVD Detector



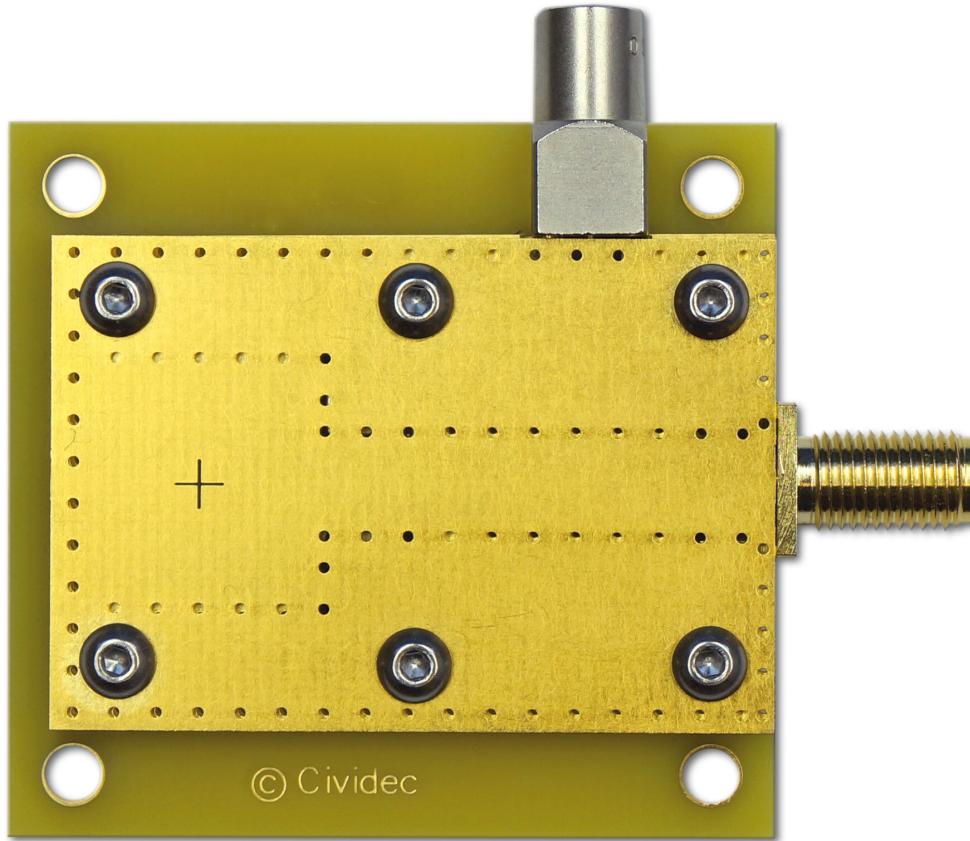
© CIVIDEC

# sCVD Detector

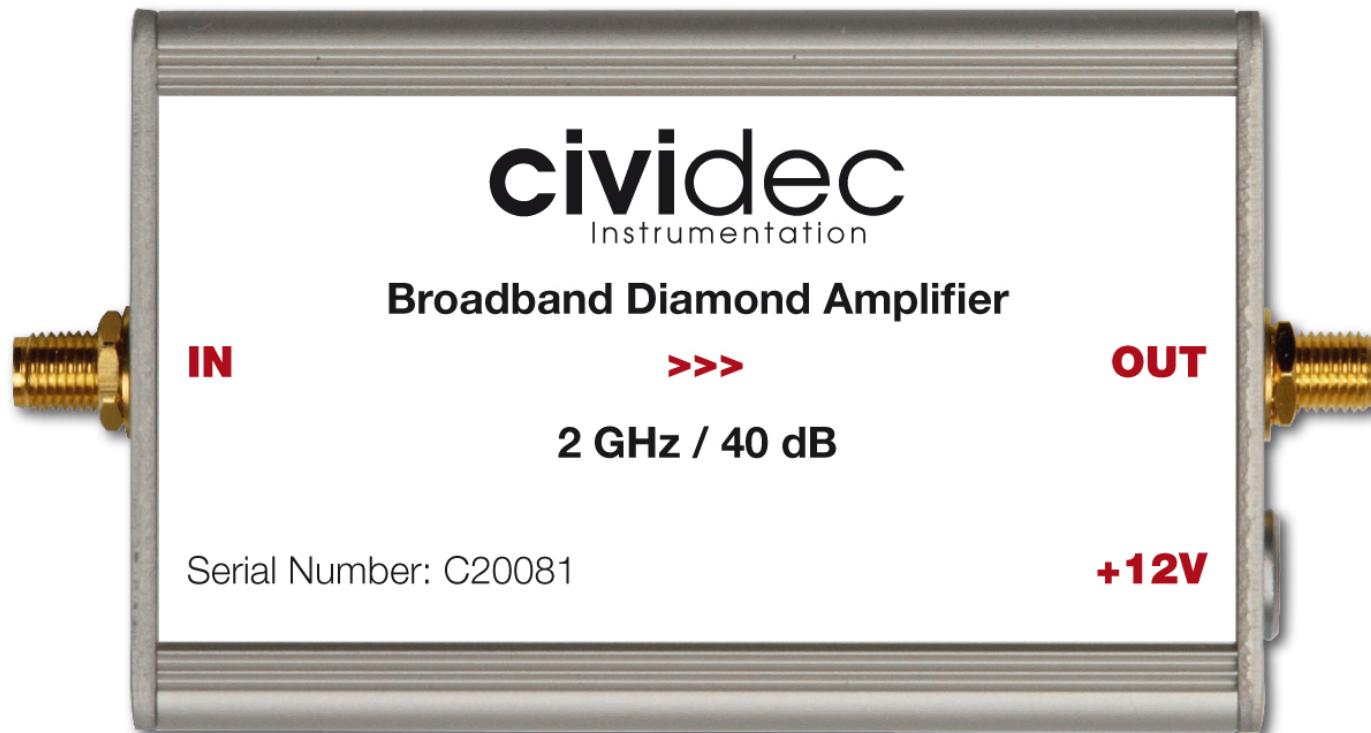


© CIVIDEC

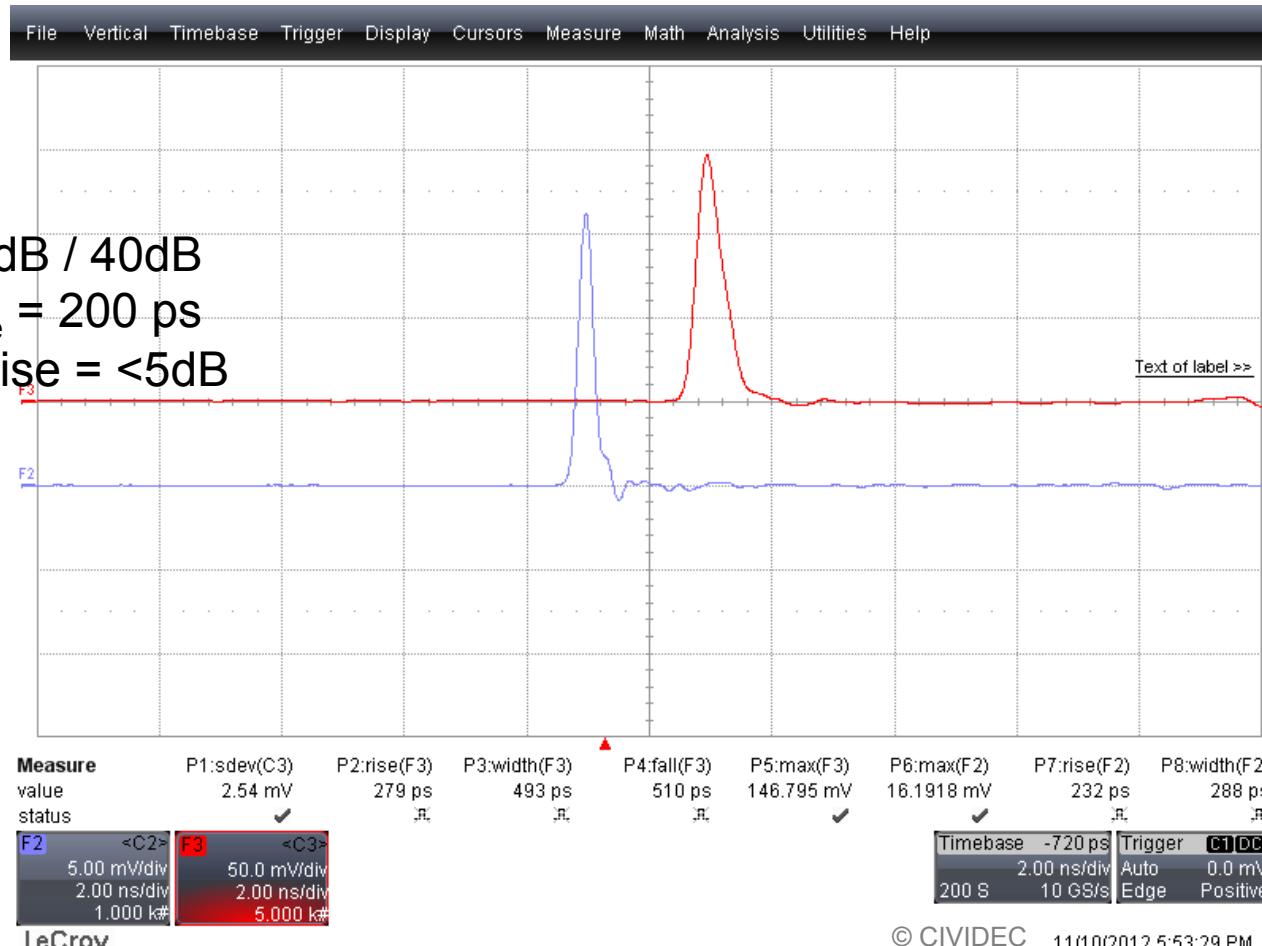
# RF tight housing



# 2 GHz Broadband Amplifier



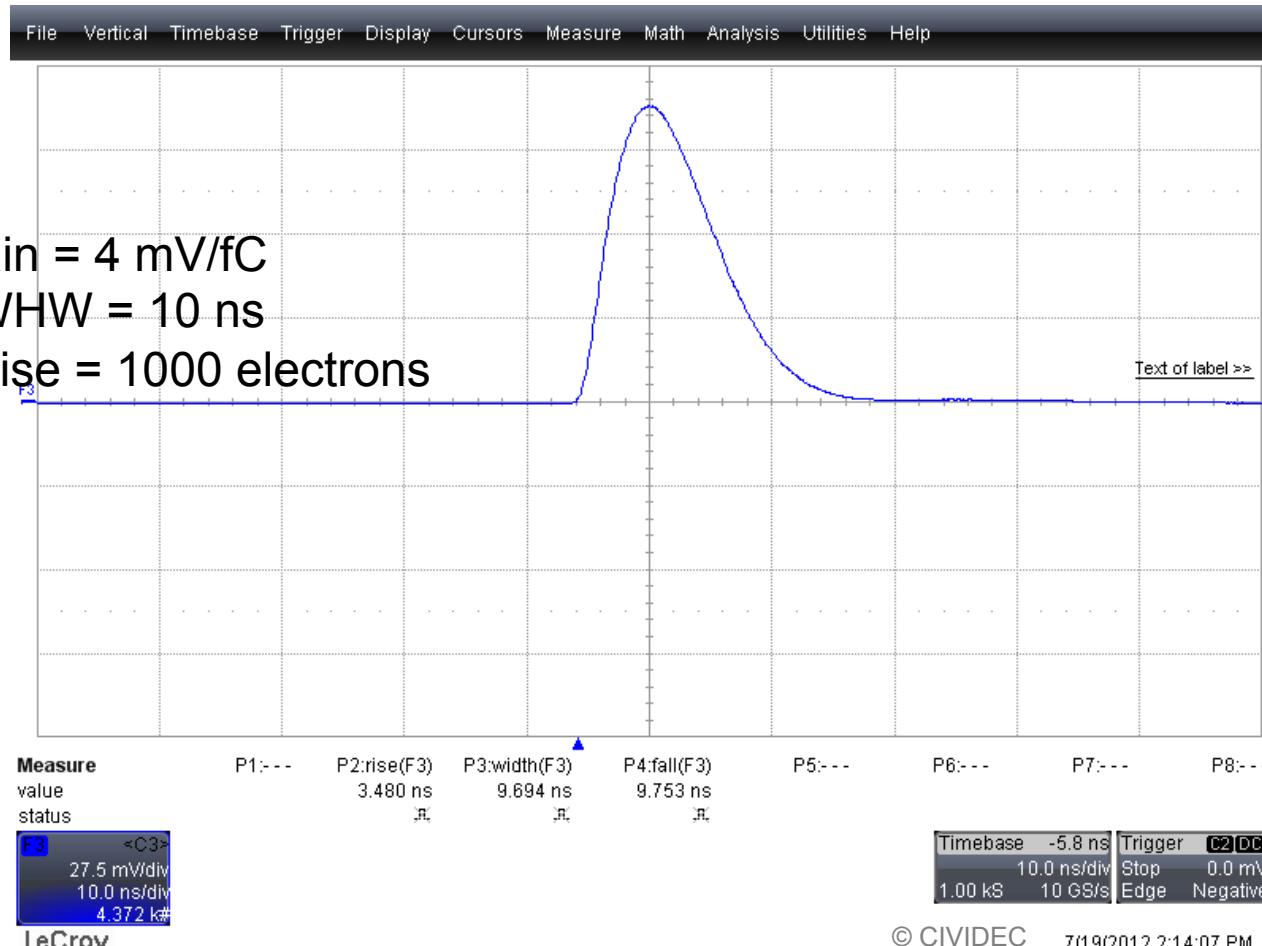
# C2 – Broadband Amplifier



# Fast Charge Amplifier



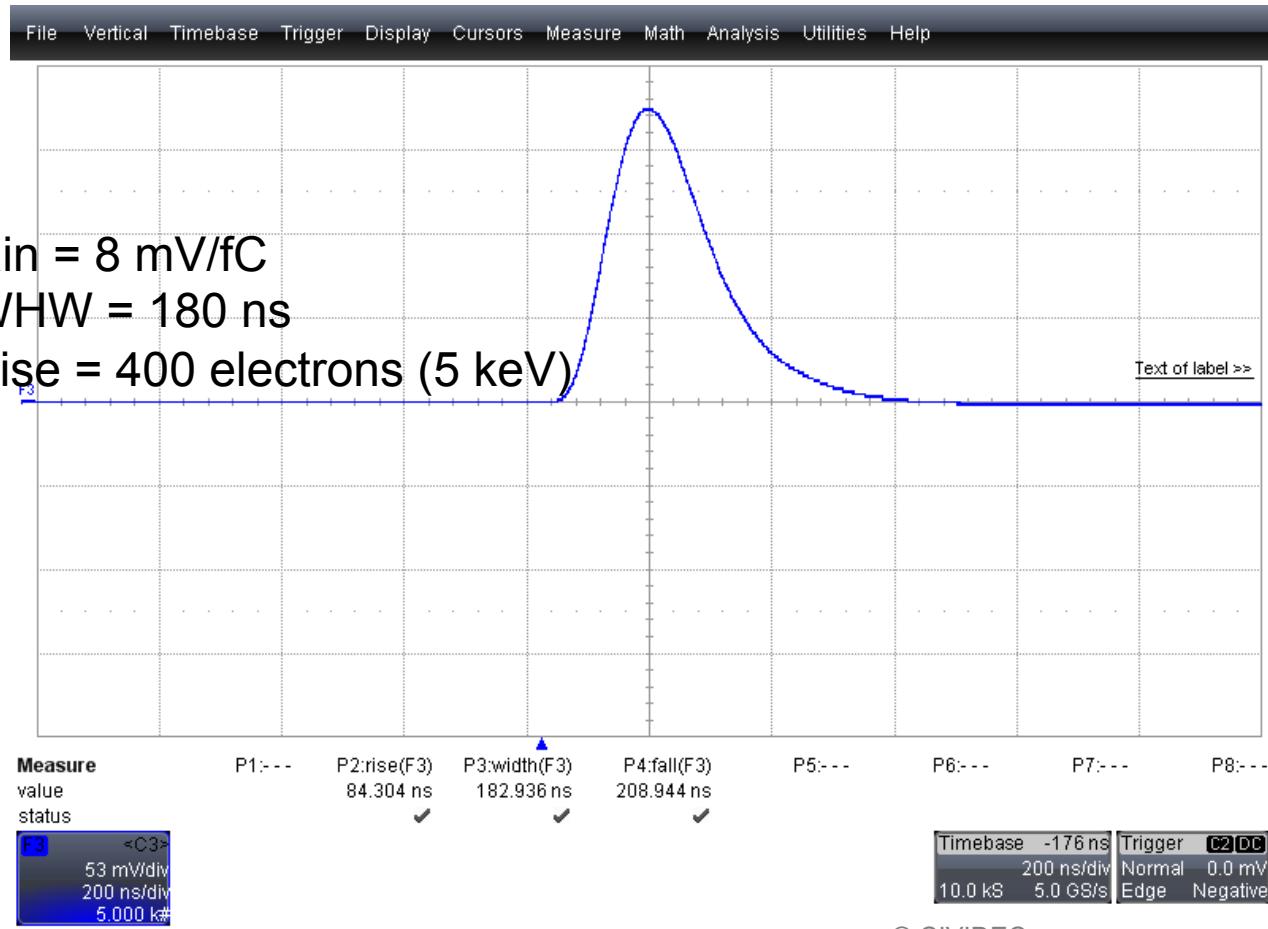
# C6 – Charge Amplifier



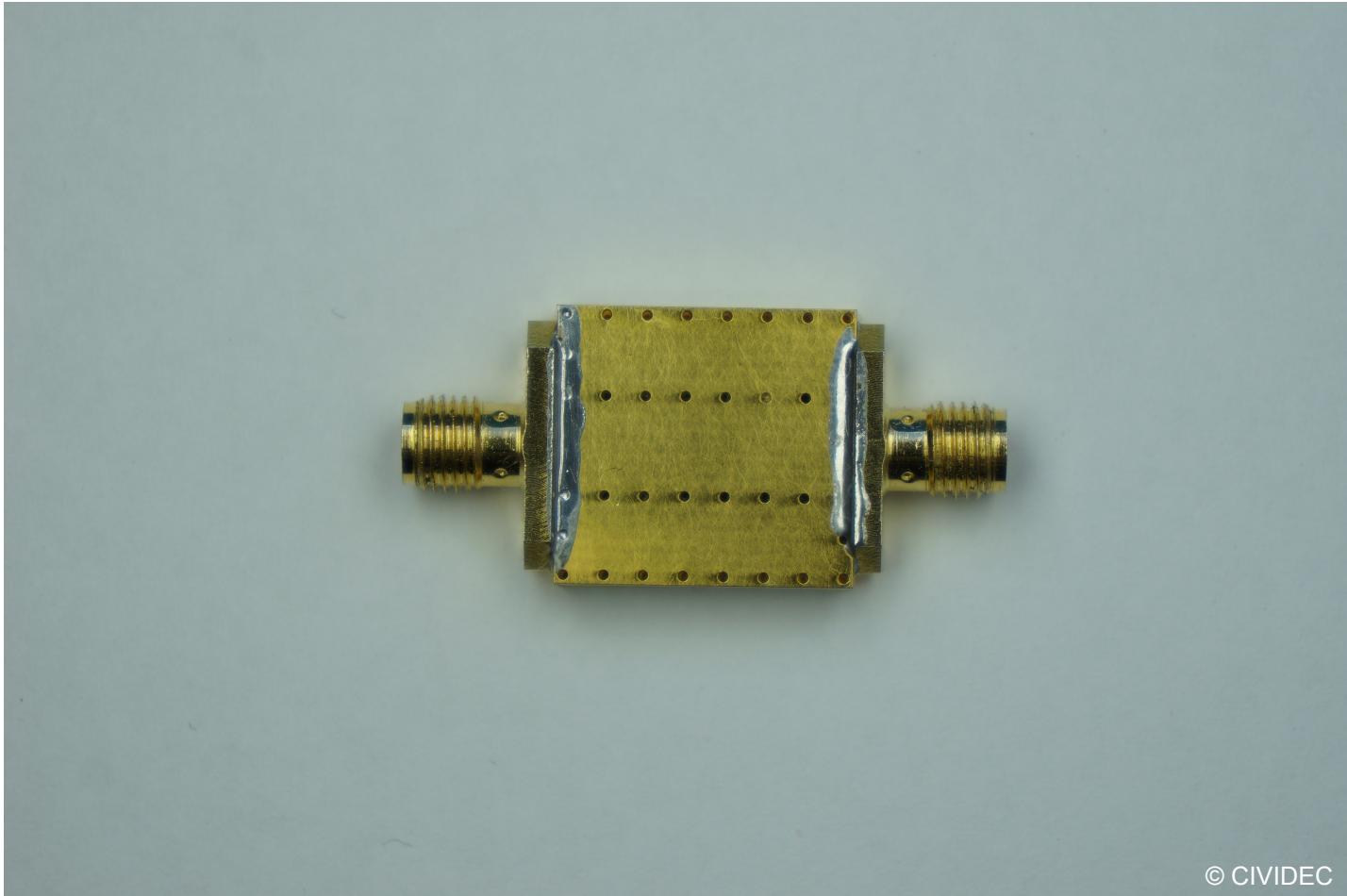
# Spectroscopic Amplifier



# Cx – Spectroscopic Amplifier



# 40dB Attenuator



© CIVIDEC

# Beam Loss Monitor



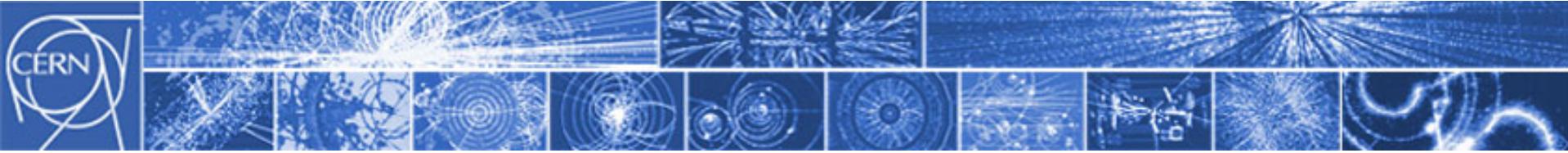
# Spectrometer



# ROSY



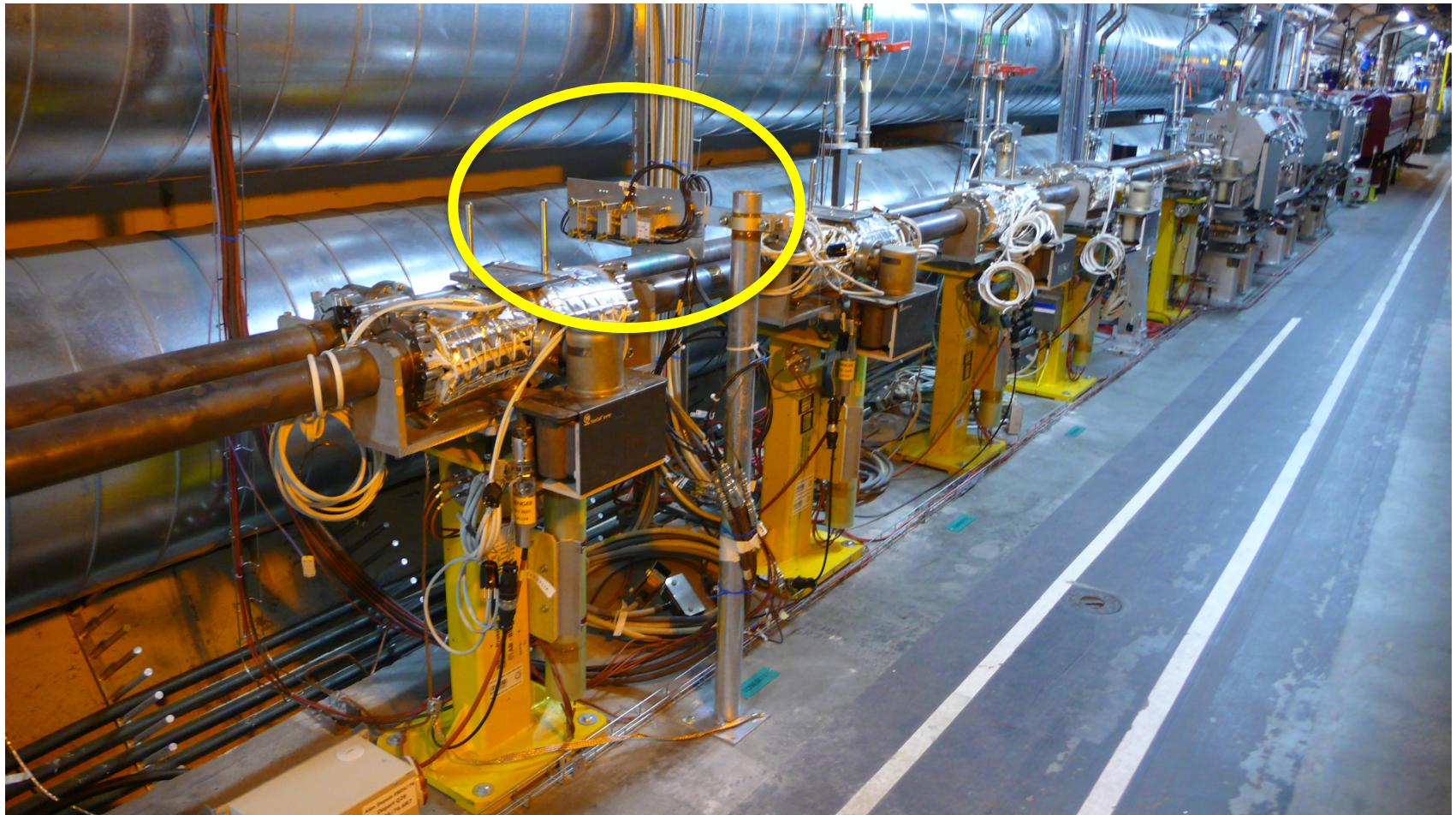
4 channels, 5 GSPS, Ethernet, real time signal processing, FPGA



# Measurements with Diamond BLMs at the LHC

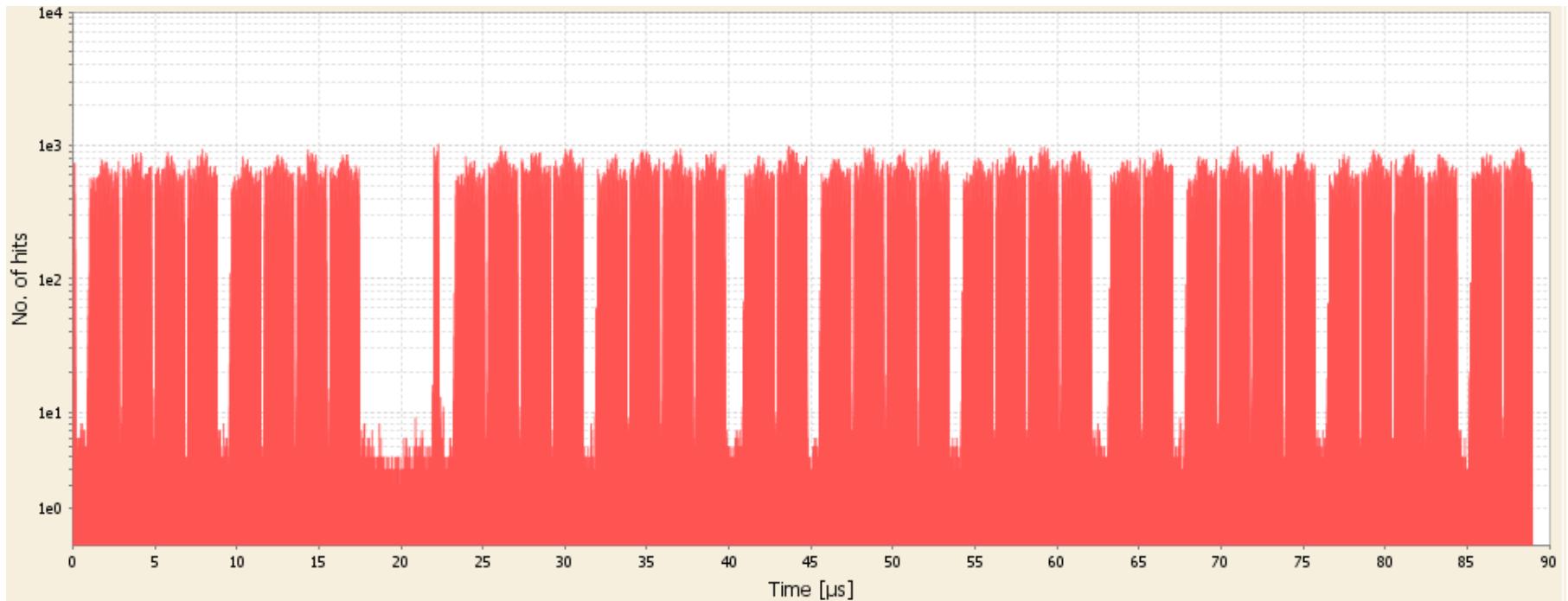
*Tobias Baer  
December, 14<sup>th</sup> 2012*

# LHC Diamond Beam Loss Monitor





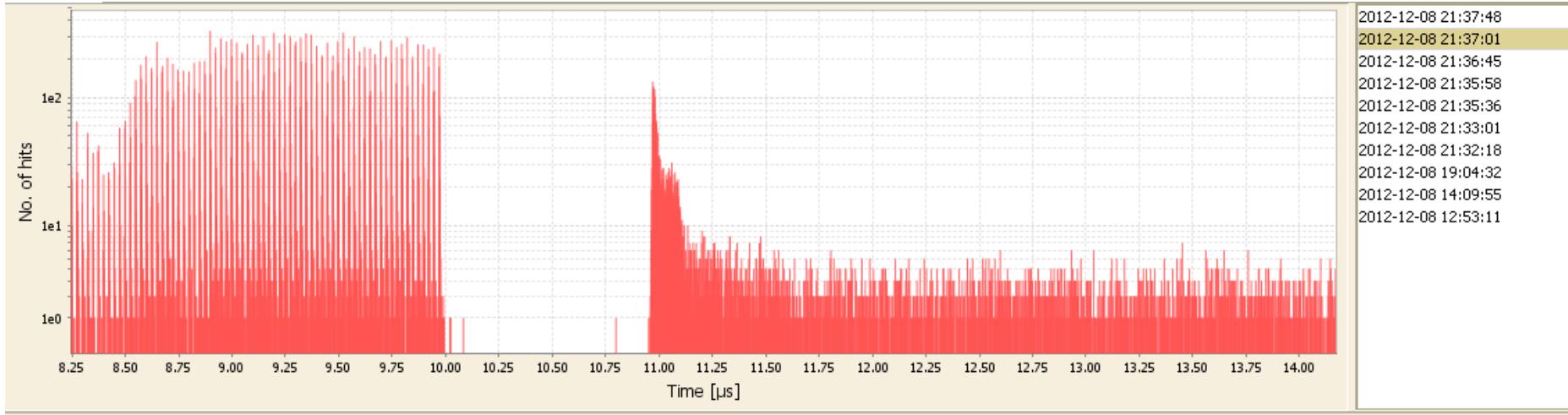
# Flat top



Static losses at 4 TeV

# CERN

# Injection cleaning



- 08.12.2012 21:37:01 - 21:37:50 – injection cleaning

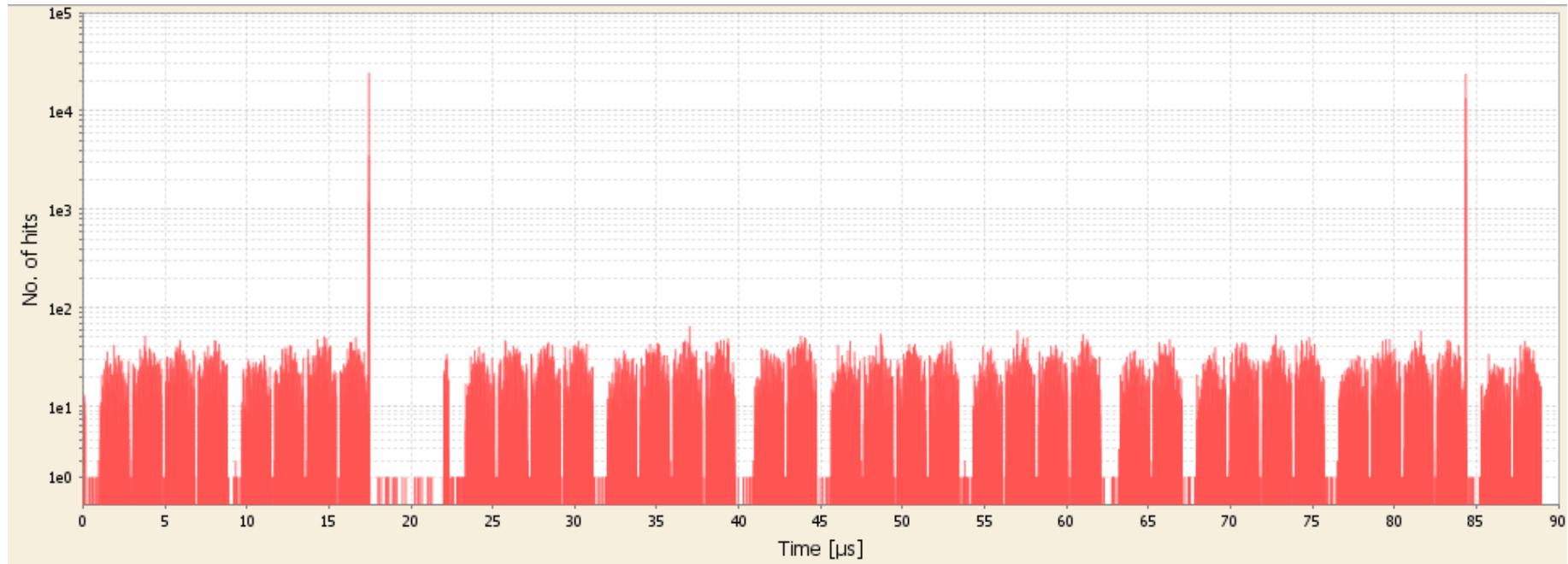
Cleaning – excitation – unbunched losses – no bunch structure – loss distribution from left to right – losses within 10 seconds - kicker transverse excitation

# Ramp



Losses during ramp – cross talk – satellites

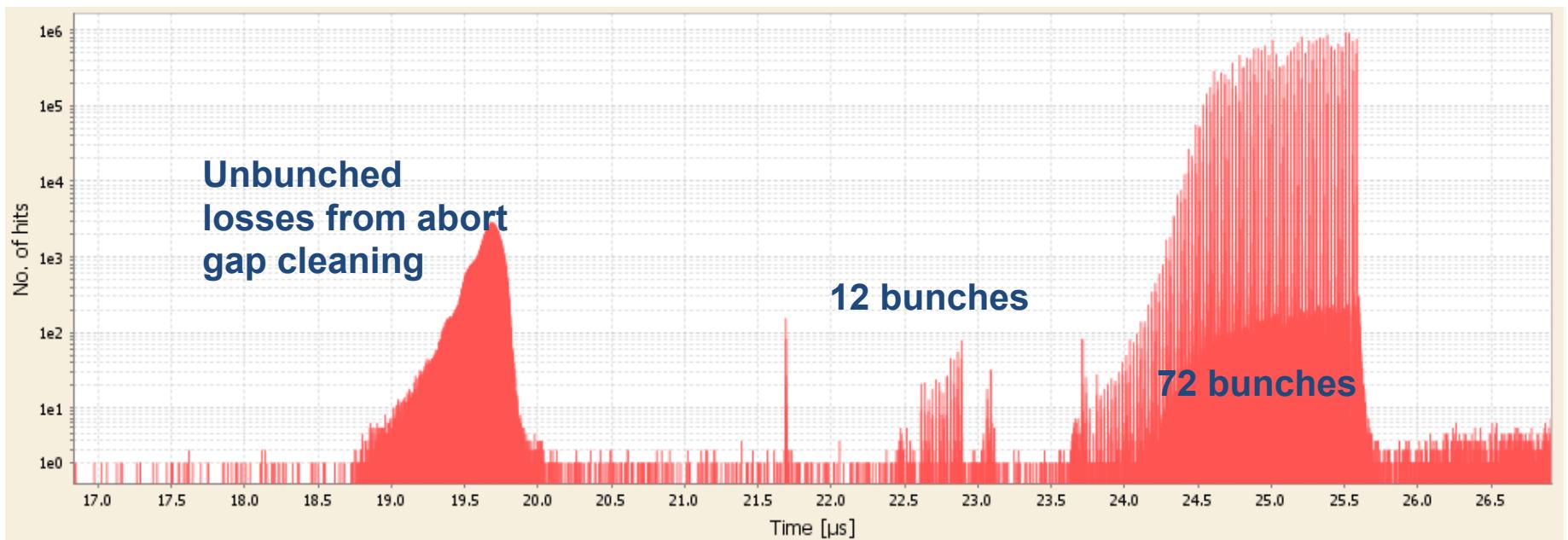
# Instability at end of squeeze



Squeeze at 4 TeV - moment of focusing – single bunches get instable – 3 orders of magnitude – 2 bunches instable – why is a question



# B1 Diamond BLM IR7

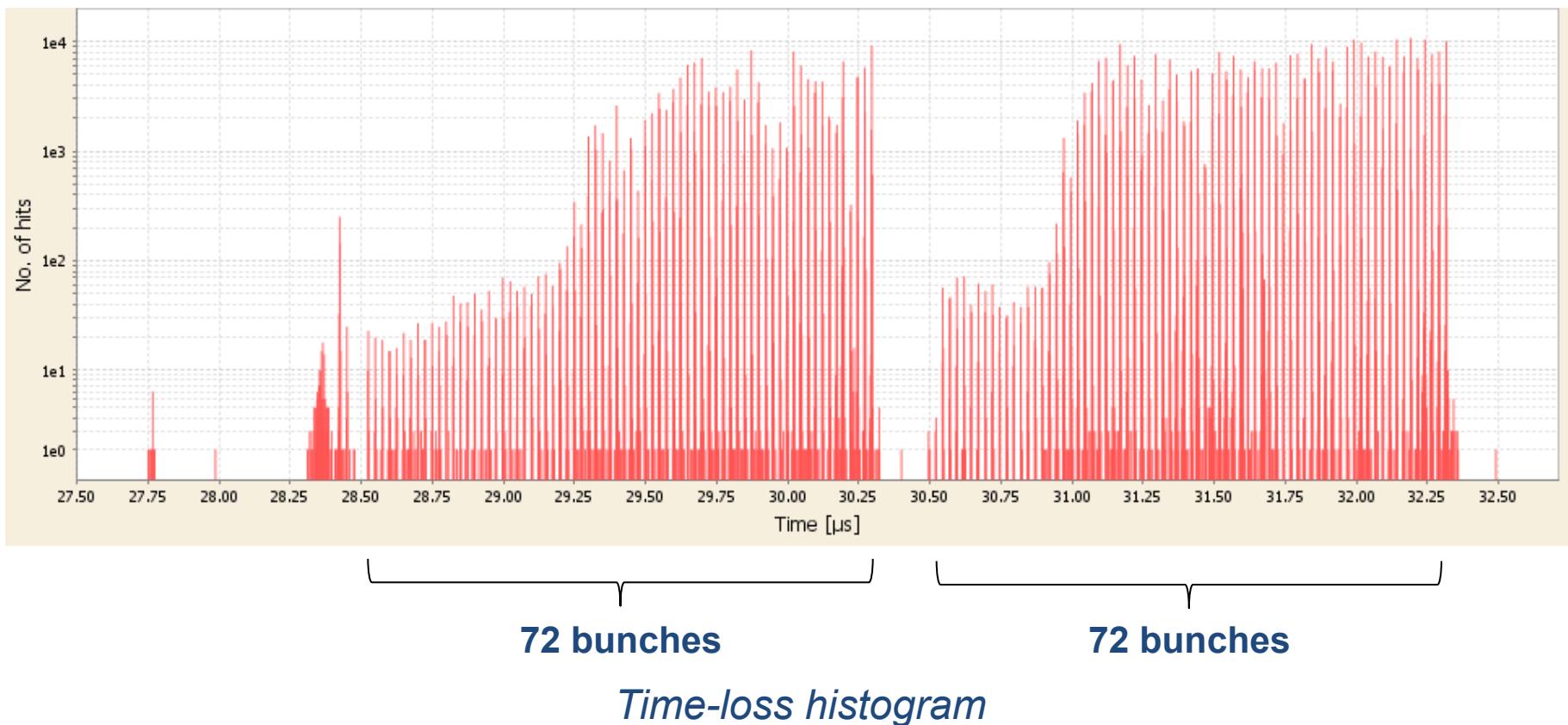


*Time-loss histogram*

25 ns, first less than more

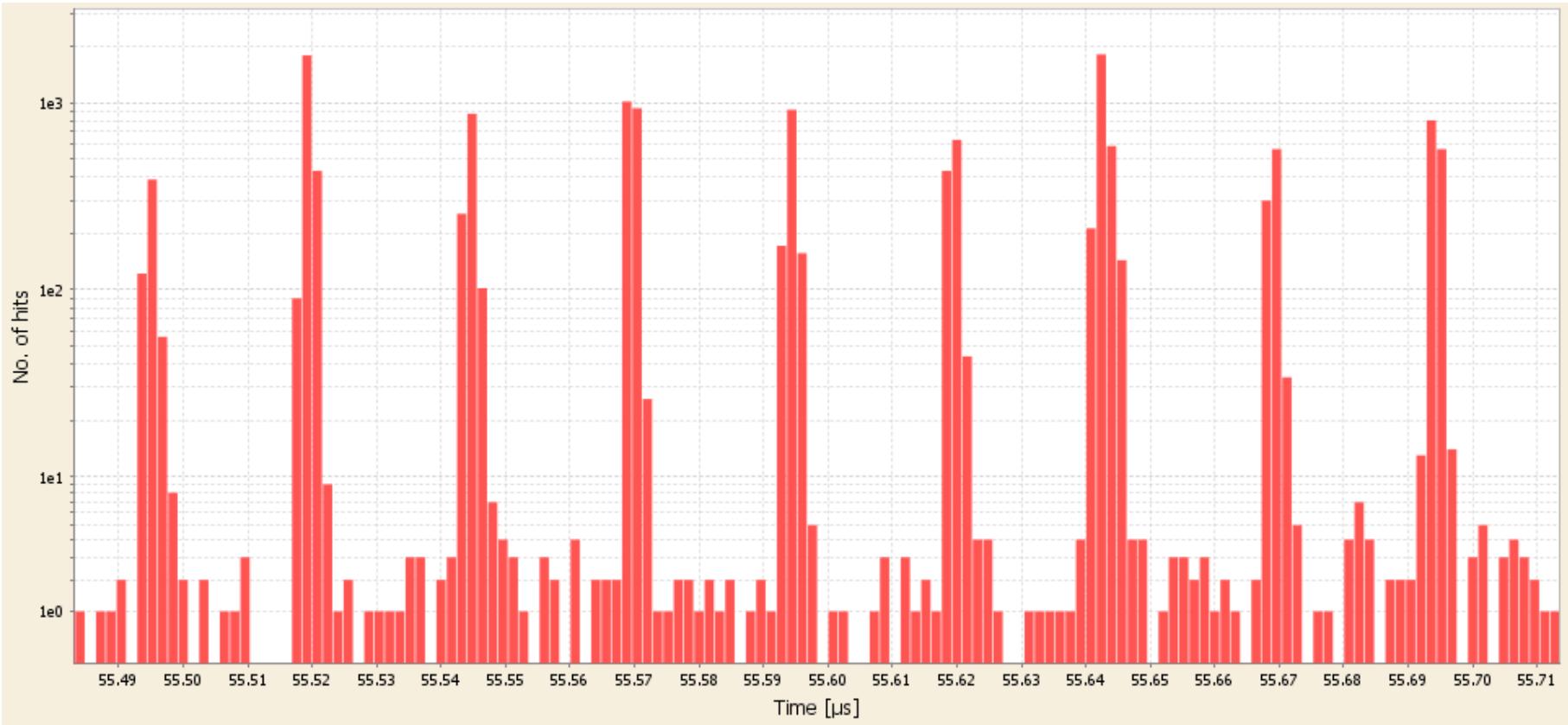


# B1 Diamond BLM IR7





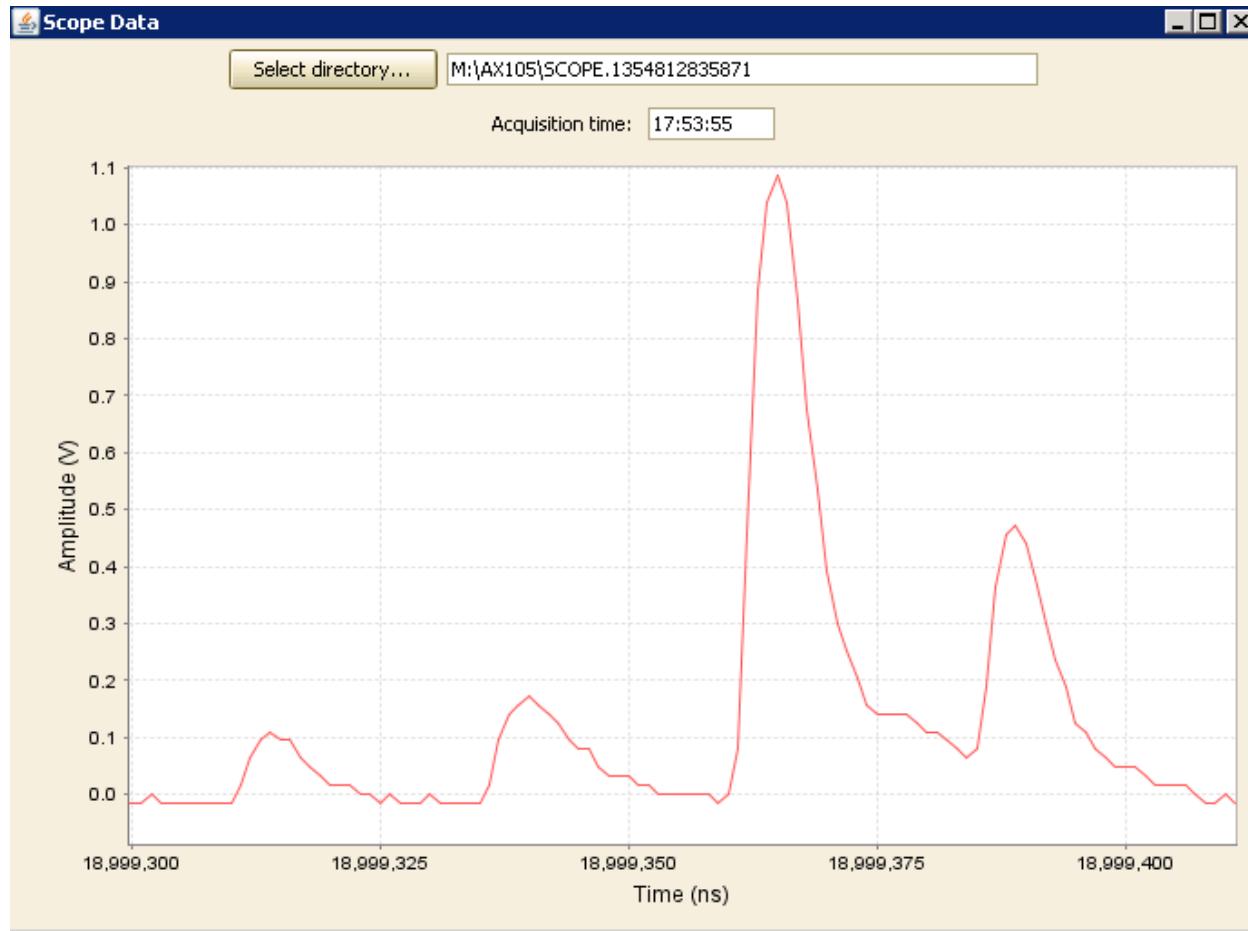
# B1 Diamond BLM IR7



*Time-loss histogram*

25 ns bunch separation, 1.6 ns binning

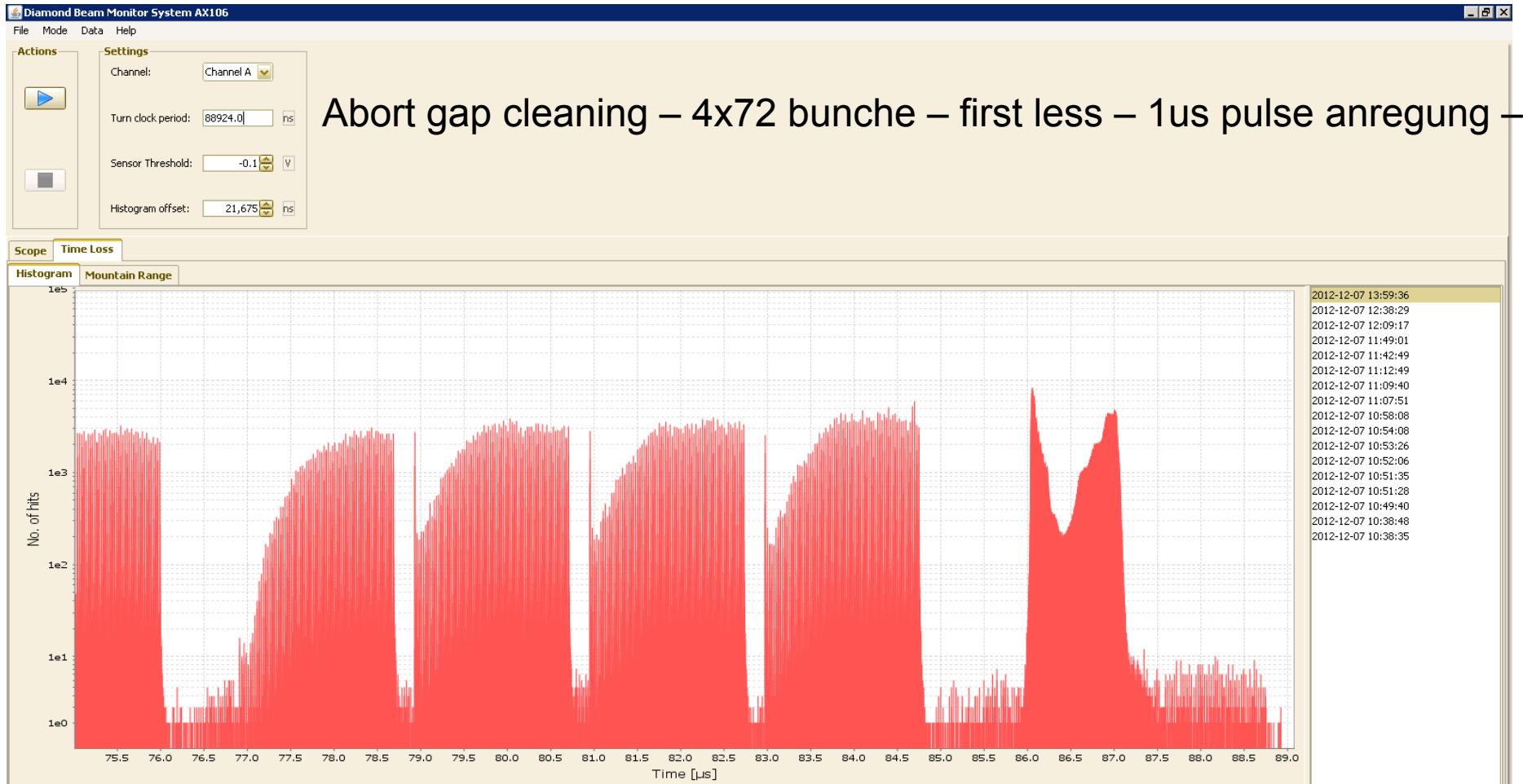
# B1 Diamond BLM IR7



*Bunch-by-bunch losses in scope mode*

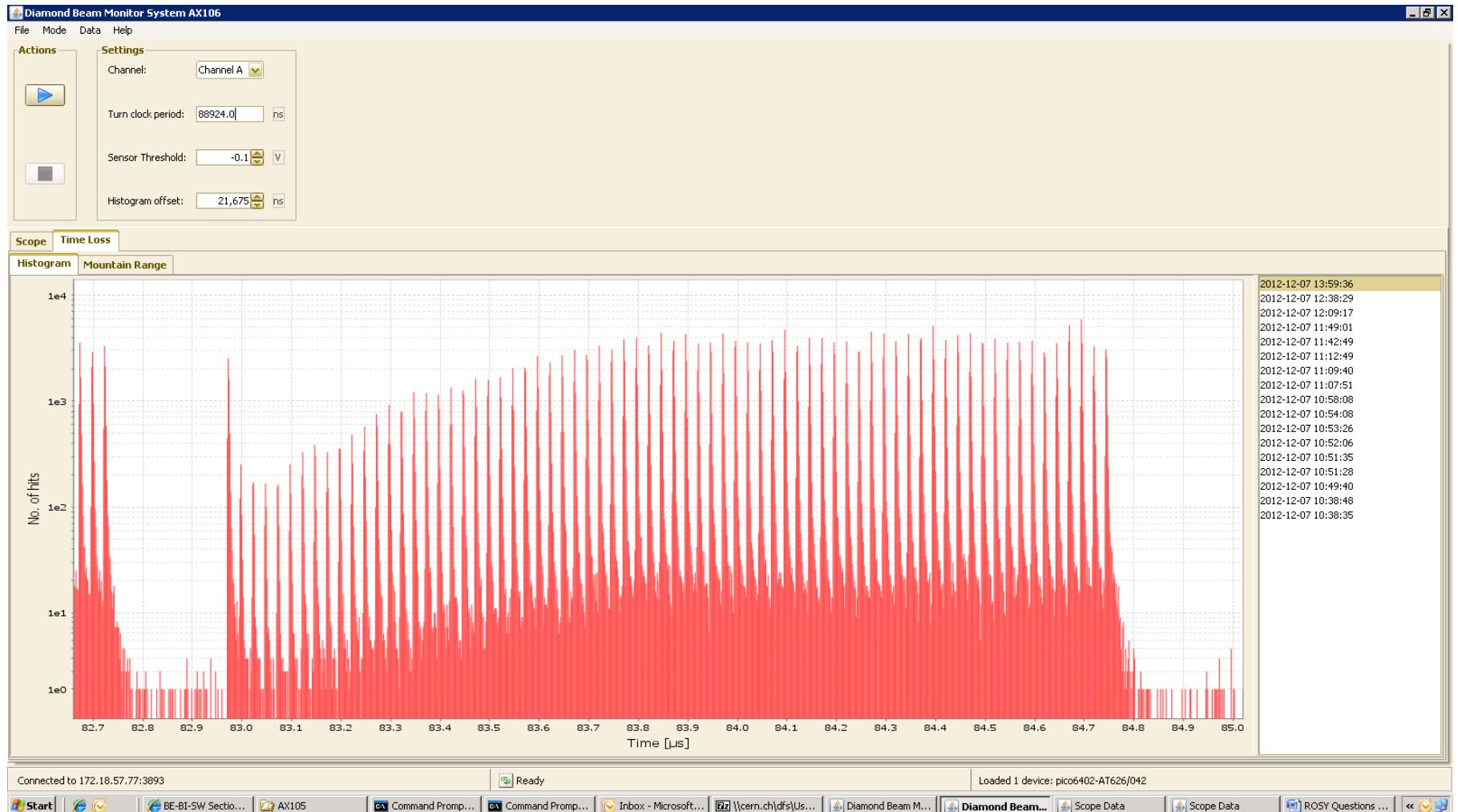


# 25ns



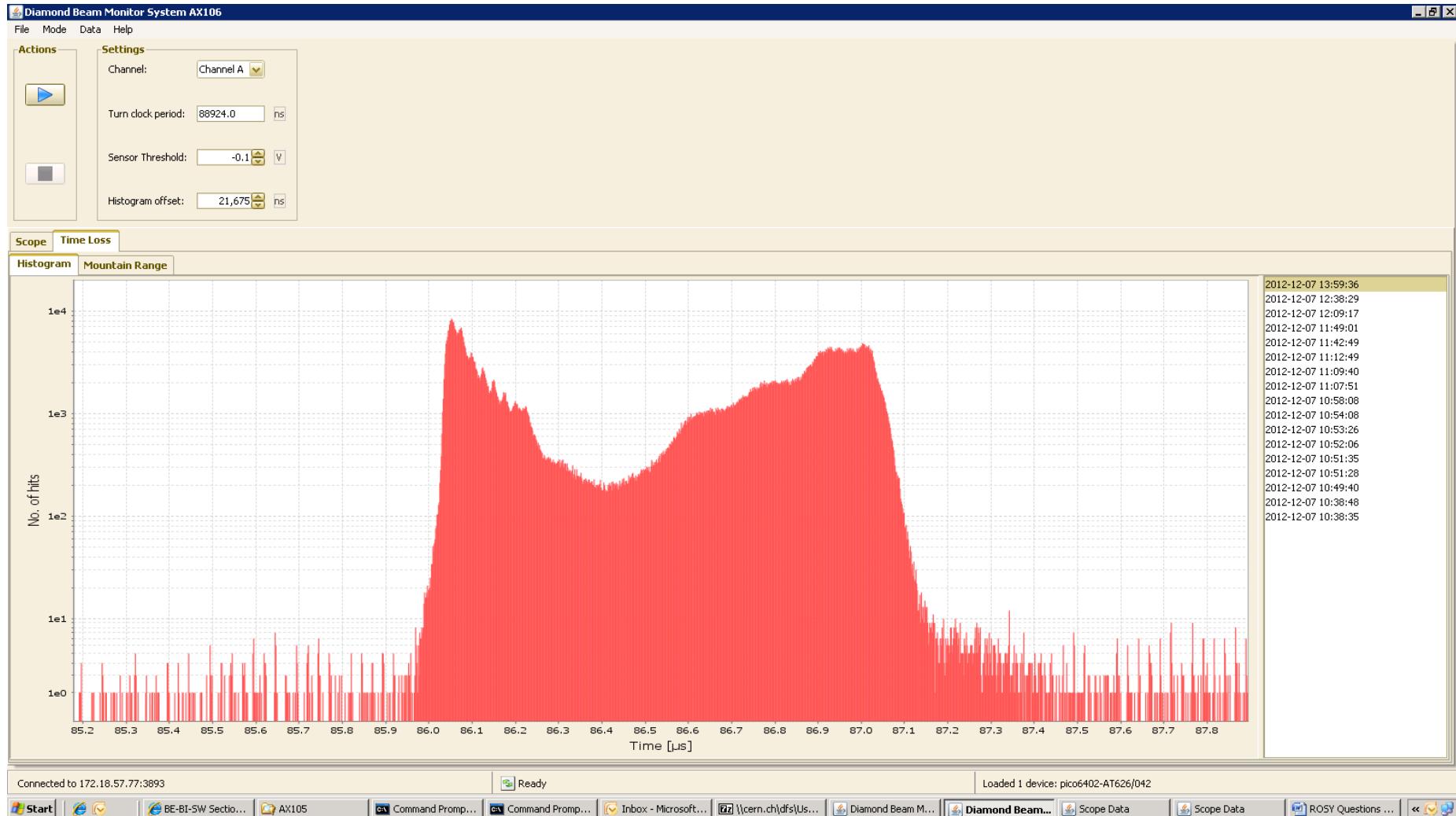


# 72b, 25ns



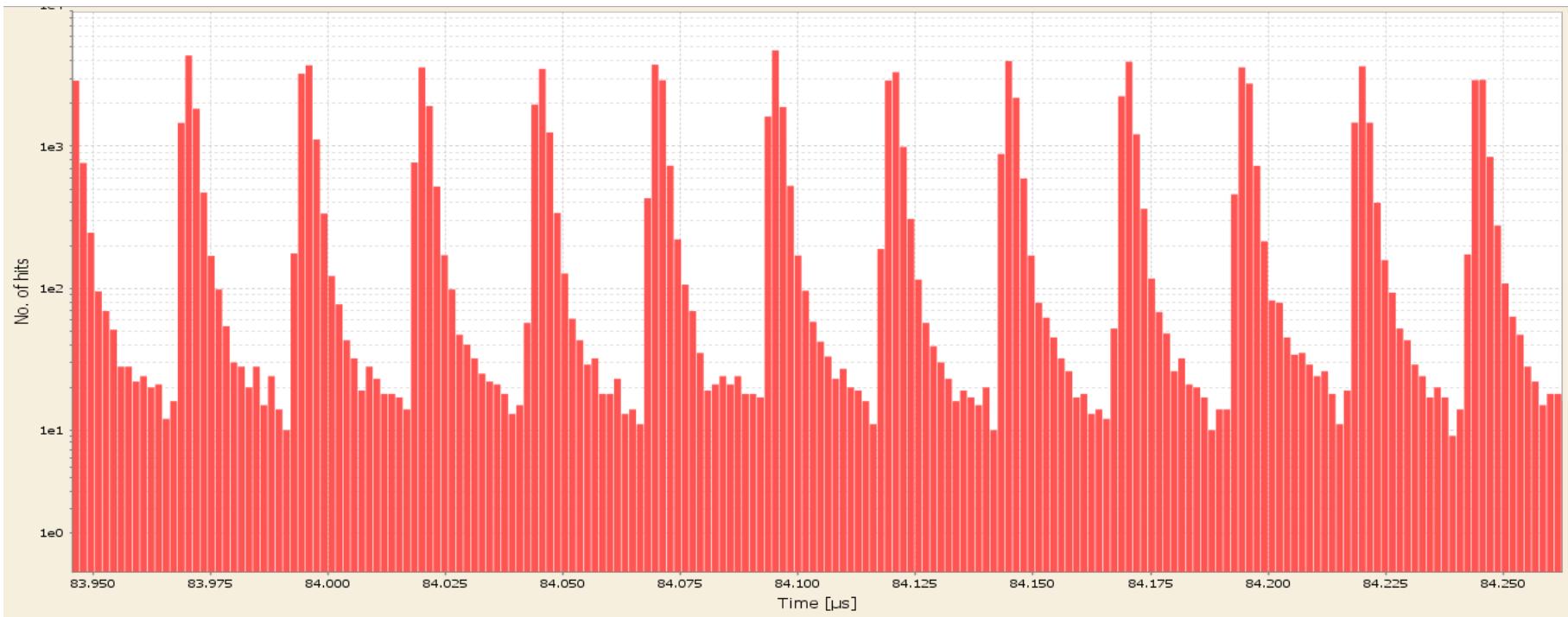


# Abort gap cleaning





# 25ns





**2012 was a good year !**