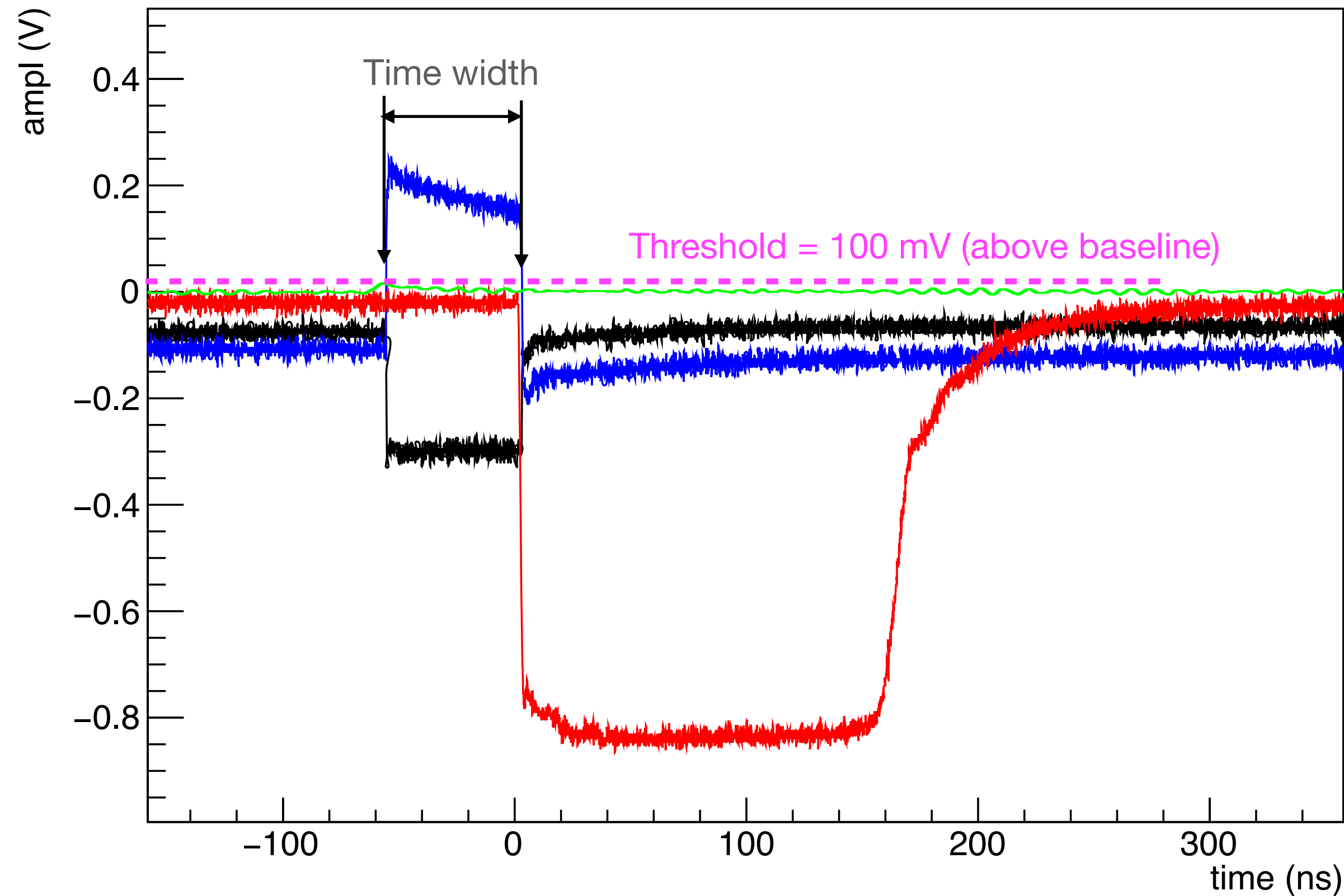


Studio parametri amplificatore

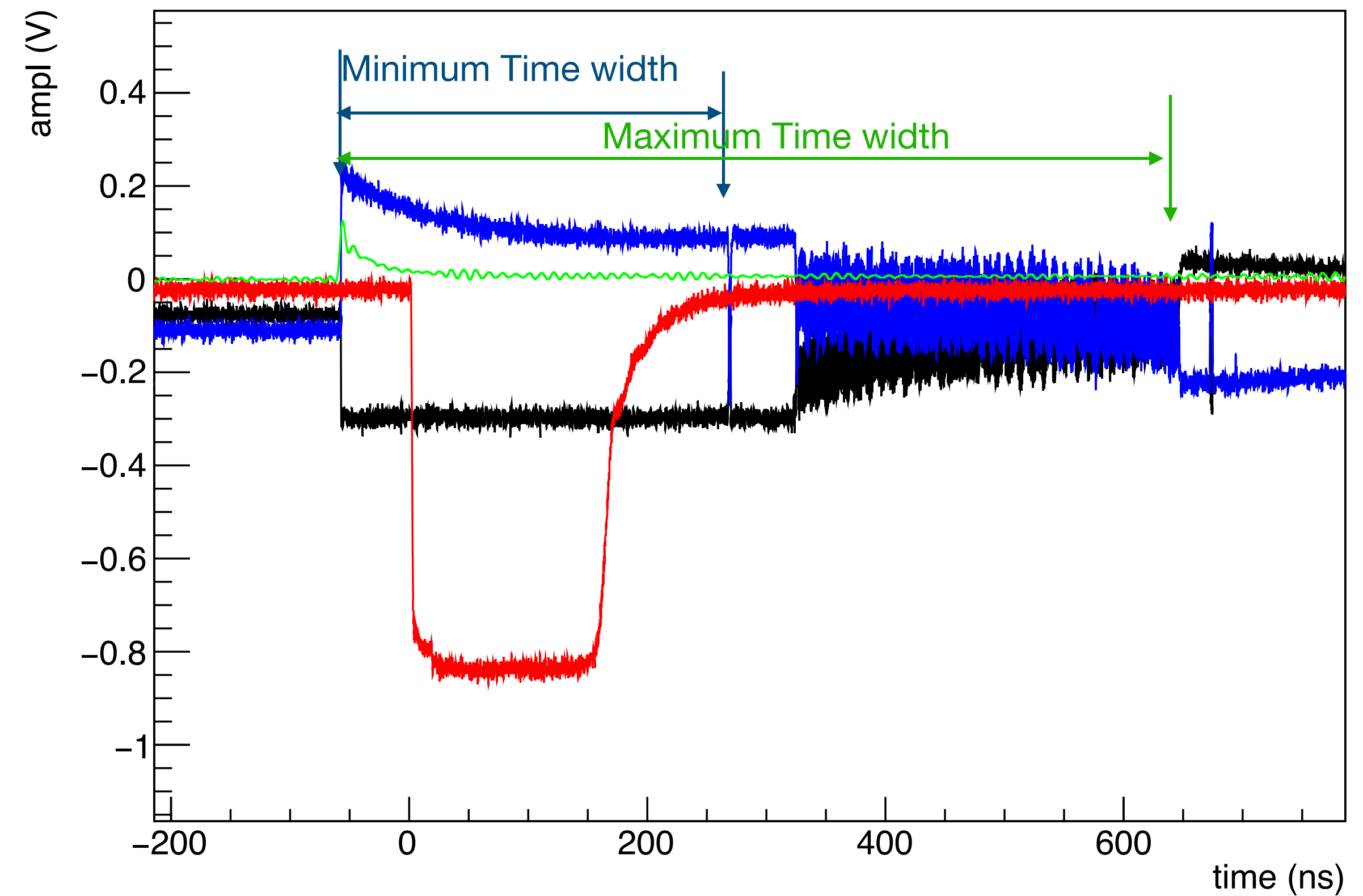
- Tensione di alimentazione $V_{ee} = 5\text{ V} - 3.5\text{ V}$
- Tensione Threshold discriminatore $V_{th} = 1.5\text{ V} - 2.5\text{ V} - 3.5\text{ V}$
- Analisi:
 - Efficienza
 - Time resolution
 - Durata segnale
 - Studio ripartenze

Waveforms: two typical signals

waveform



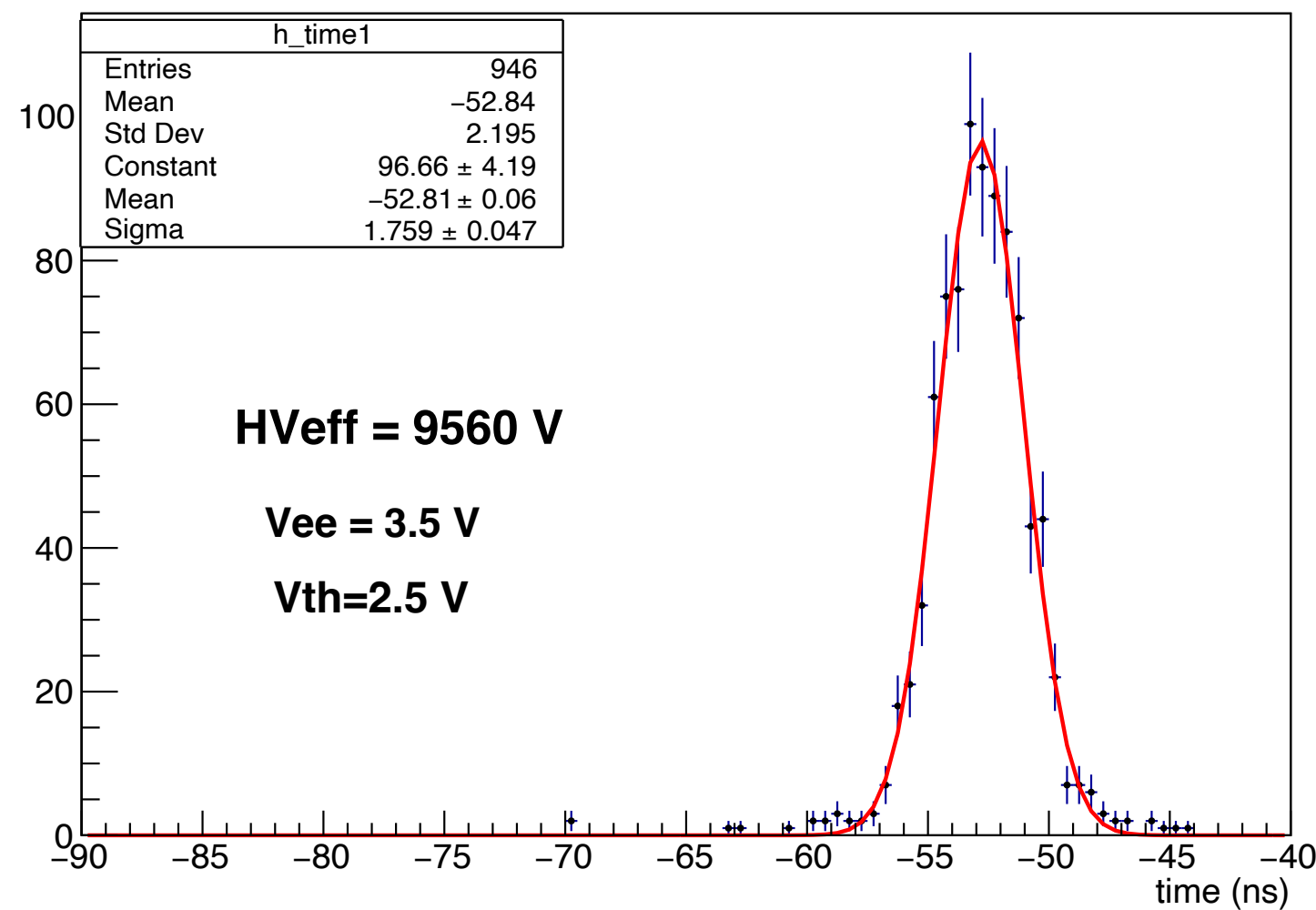
waveform



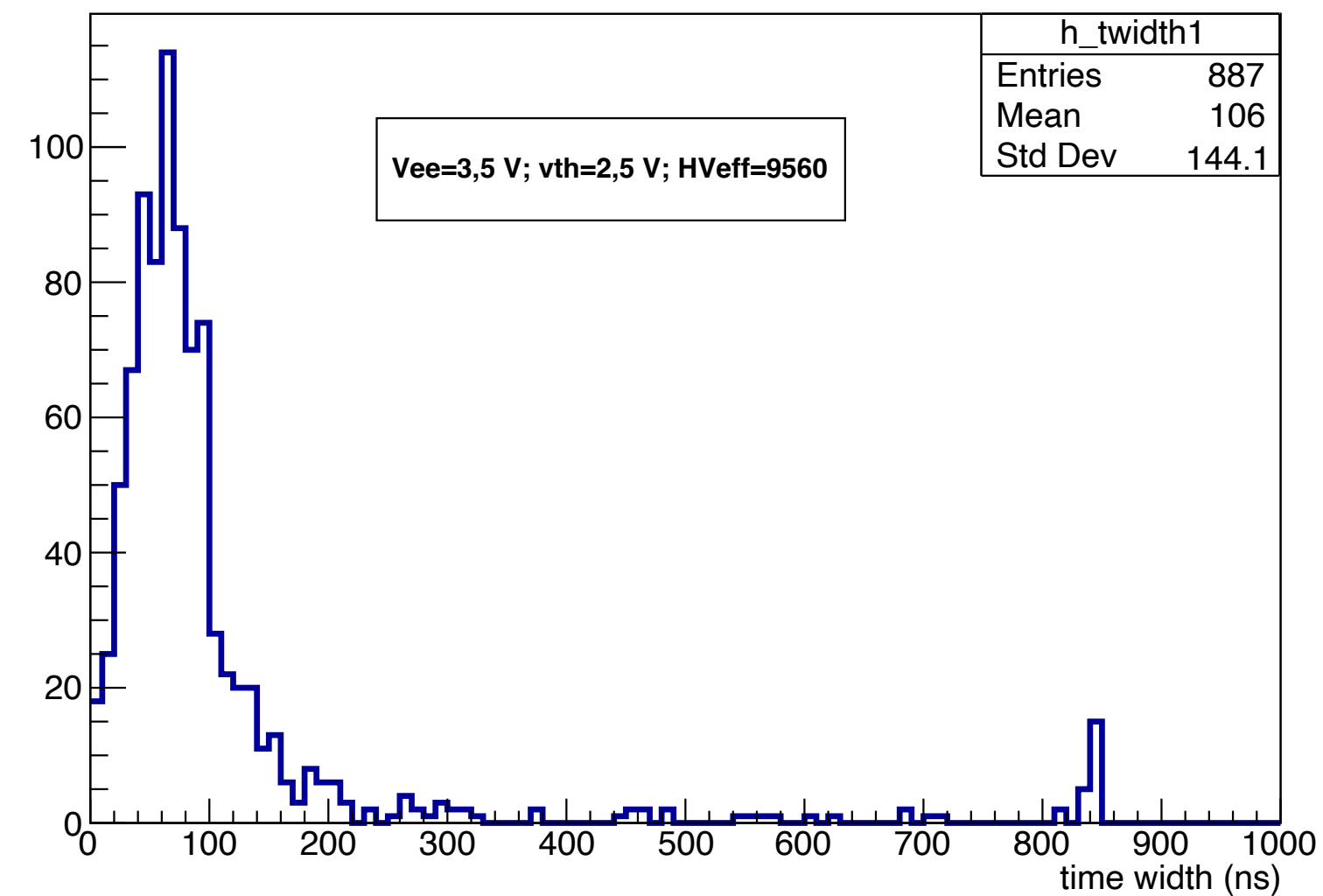
$$\text{Delta Width} = \text{Maximum Time Width} - \text{Minimum Time Width}$$

Runvee35-vth25-hv9400

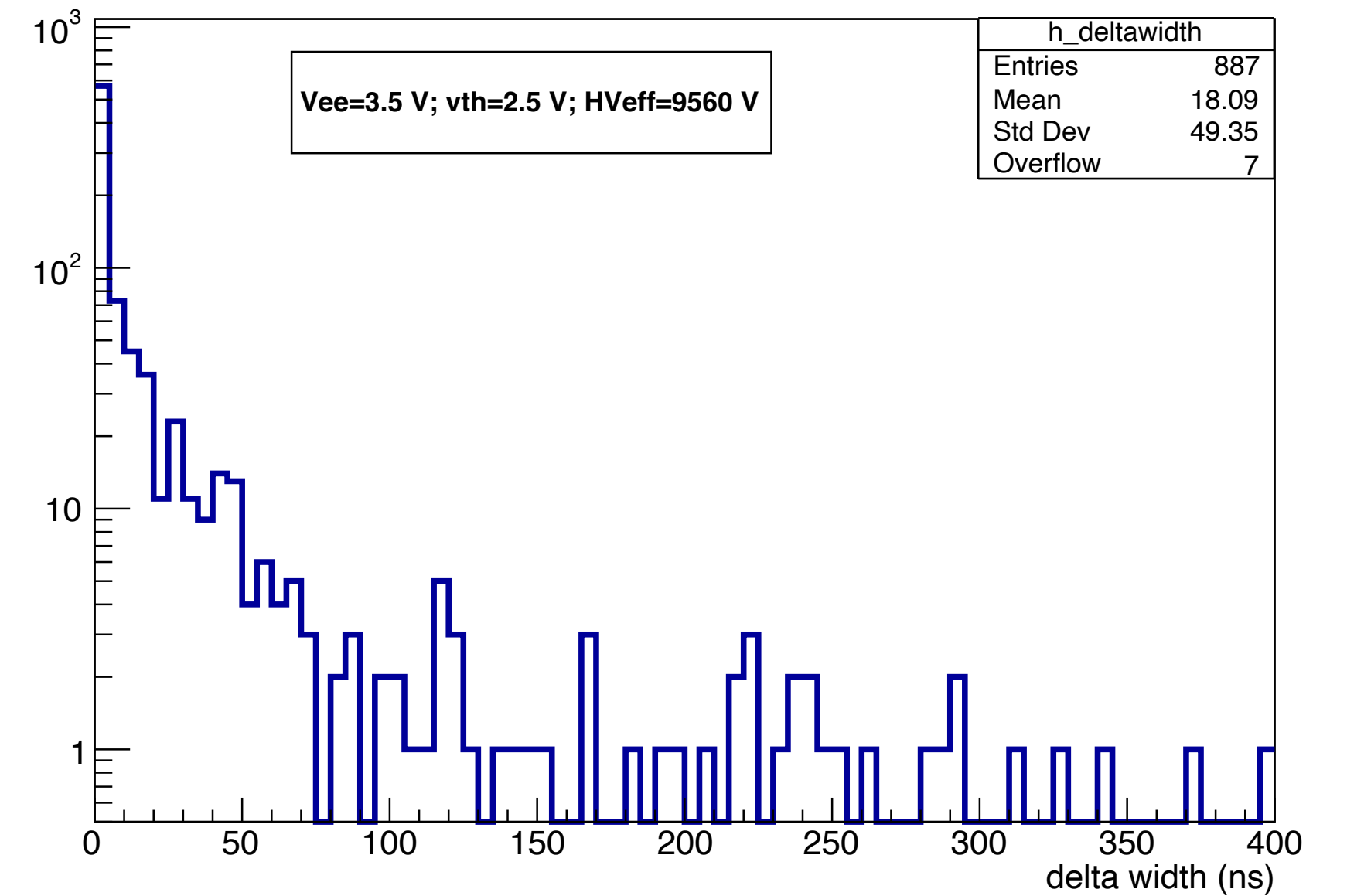
time (ch1)



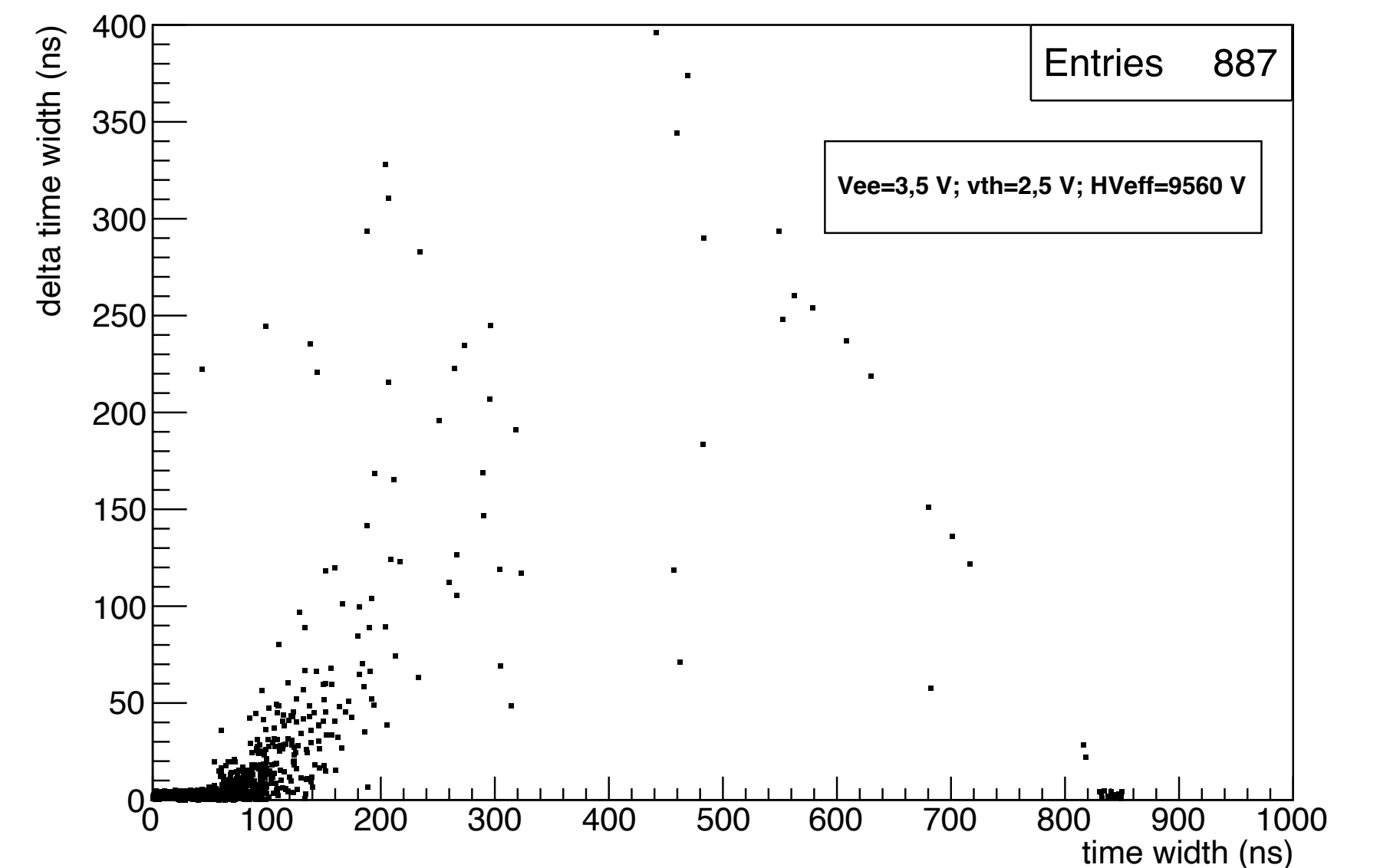
Minimum time width



Maximum - Minimum time width



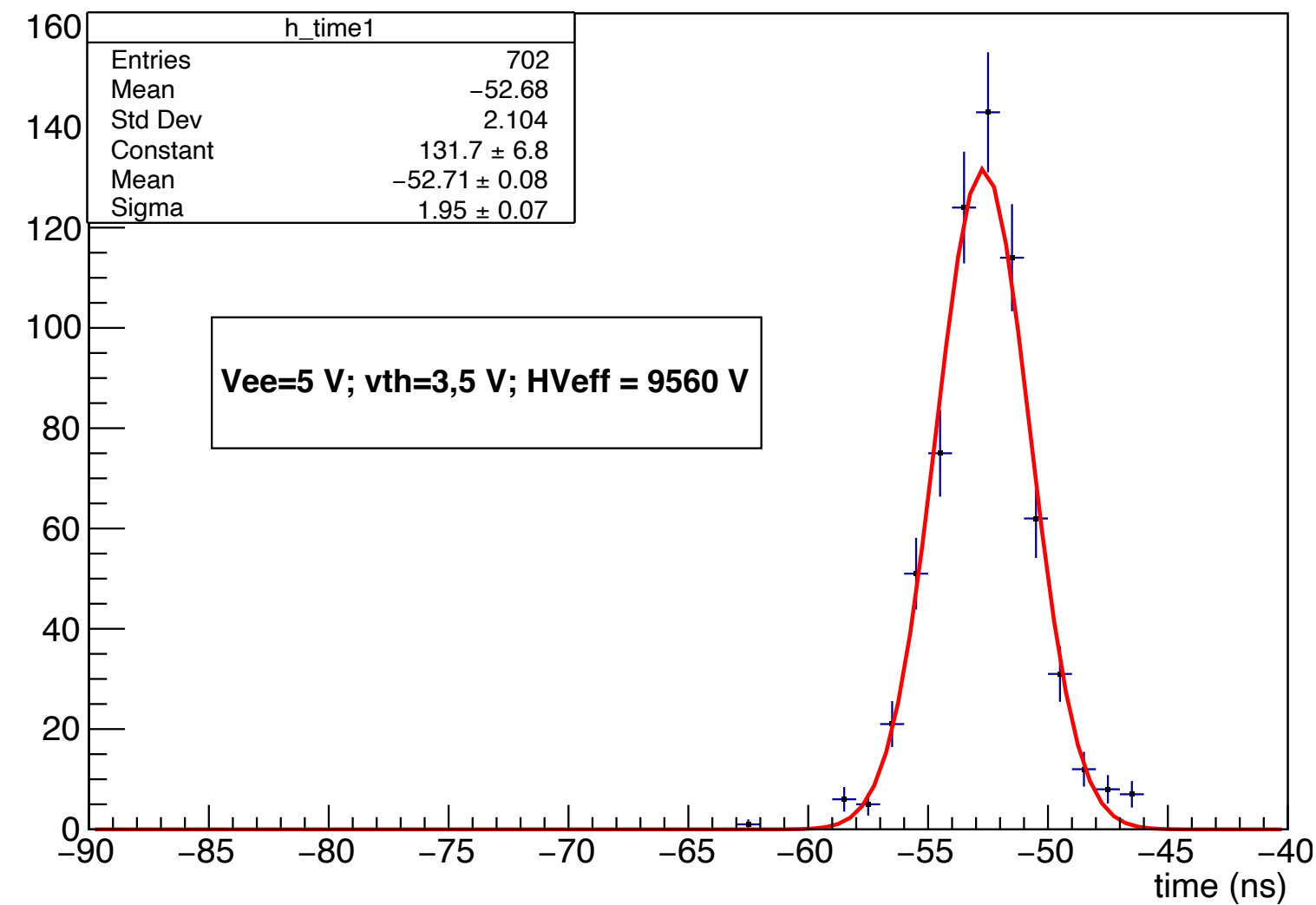
Delta time width vs time width



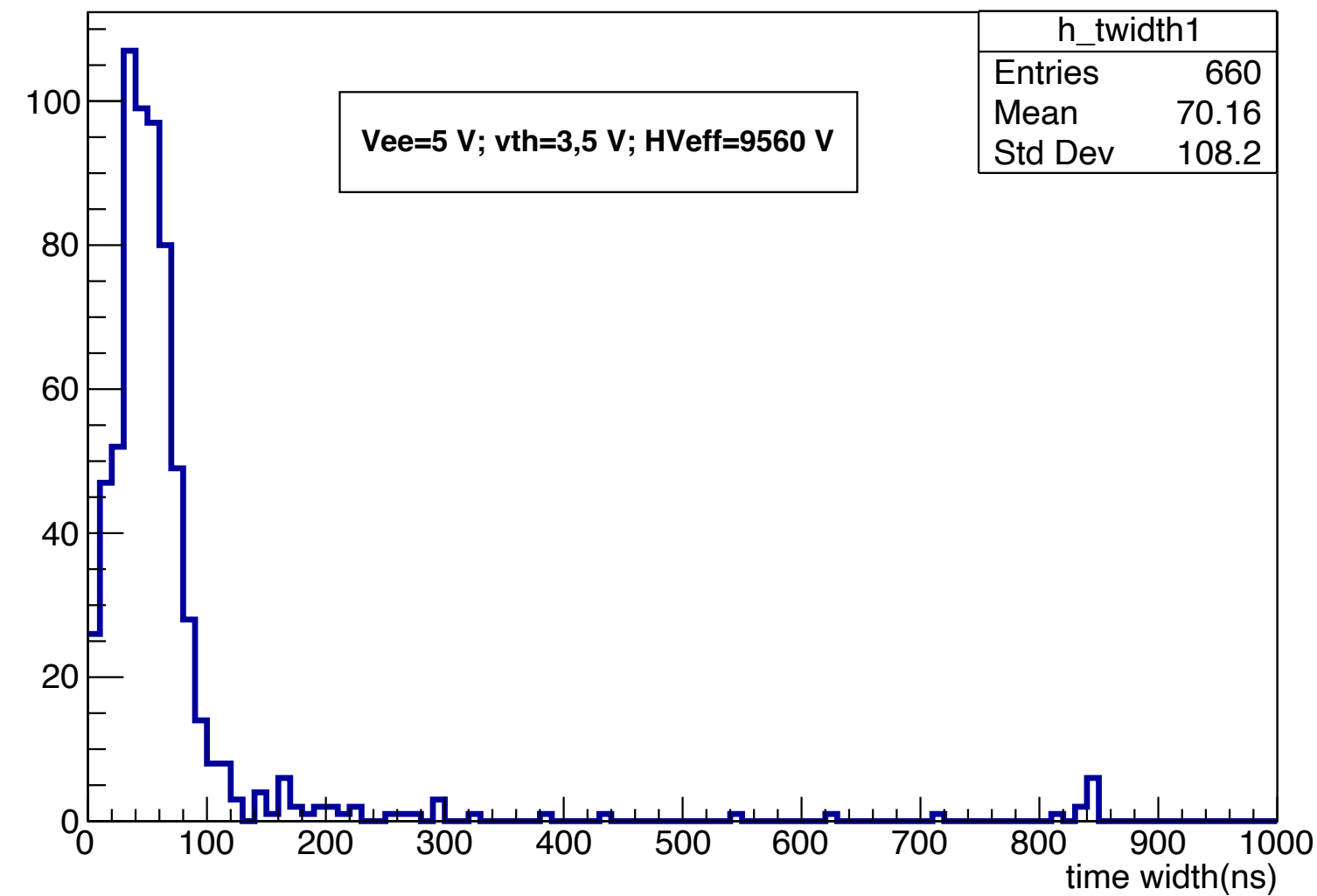
- Amplif. 1 stadio:
 - Vsupply=3.5 V
 - Vth=25
- 2mm gap: HVeff = 9560 V
- Threshold Analisi = 100 mV
- **Efficienza = 93.7%**
- **Time resolution = 1.76 V ns**

Runevee5_vth35_hv9400

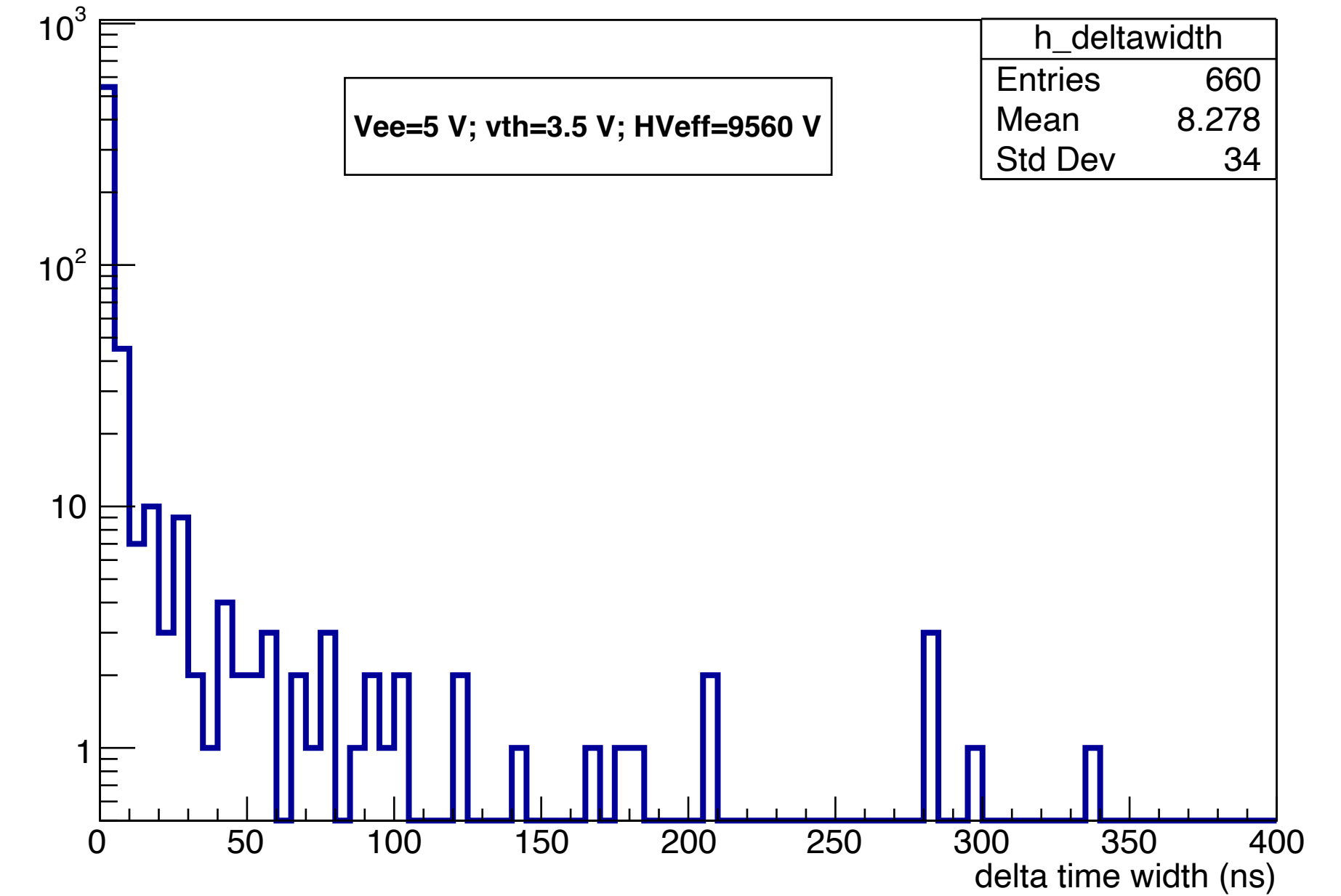
time (ch1)



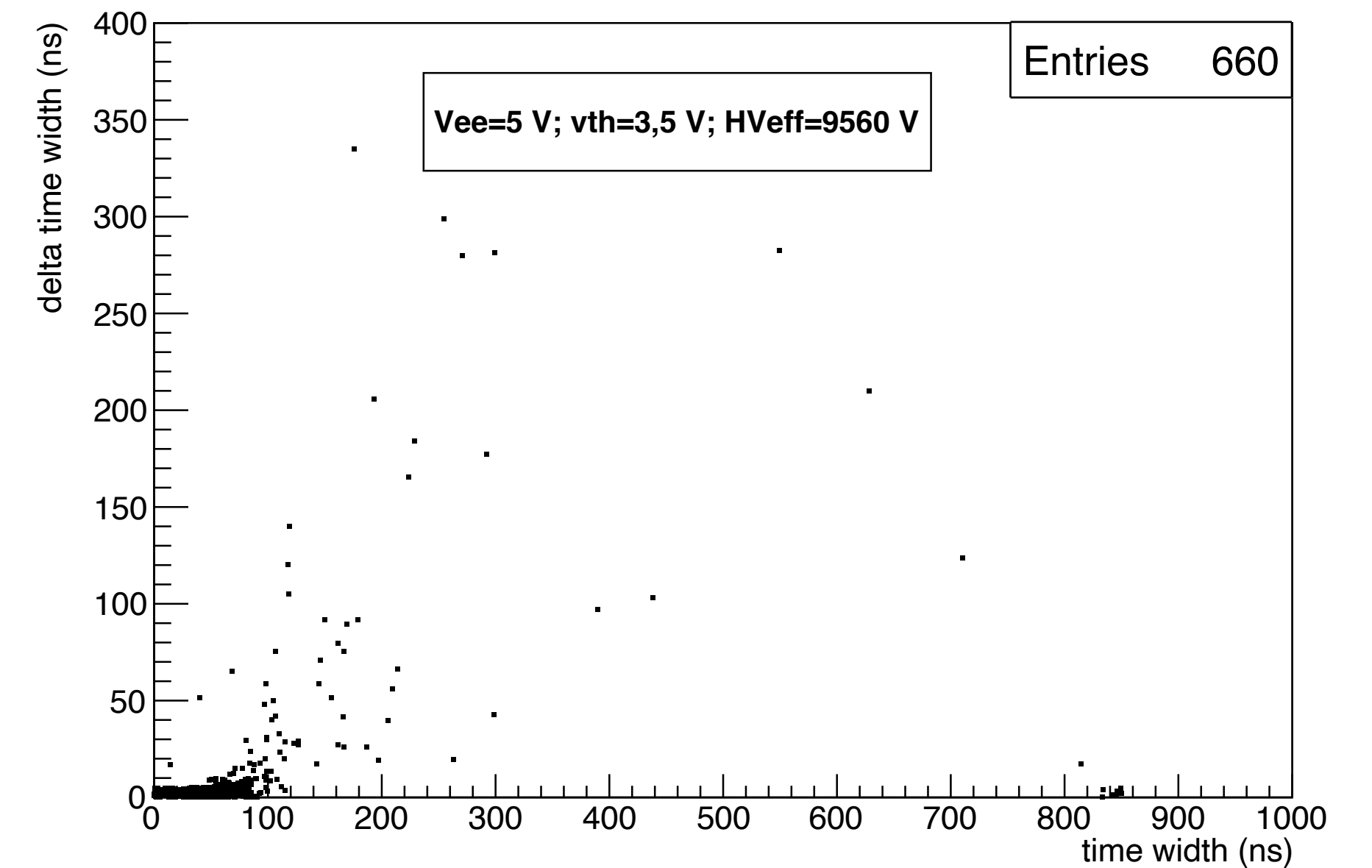
Minimum time width



Maximum - Minimum time width

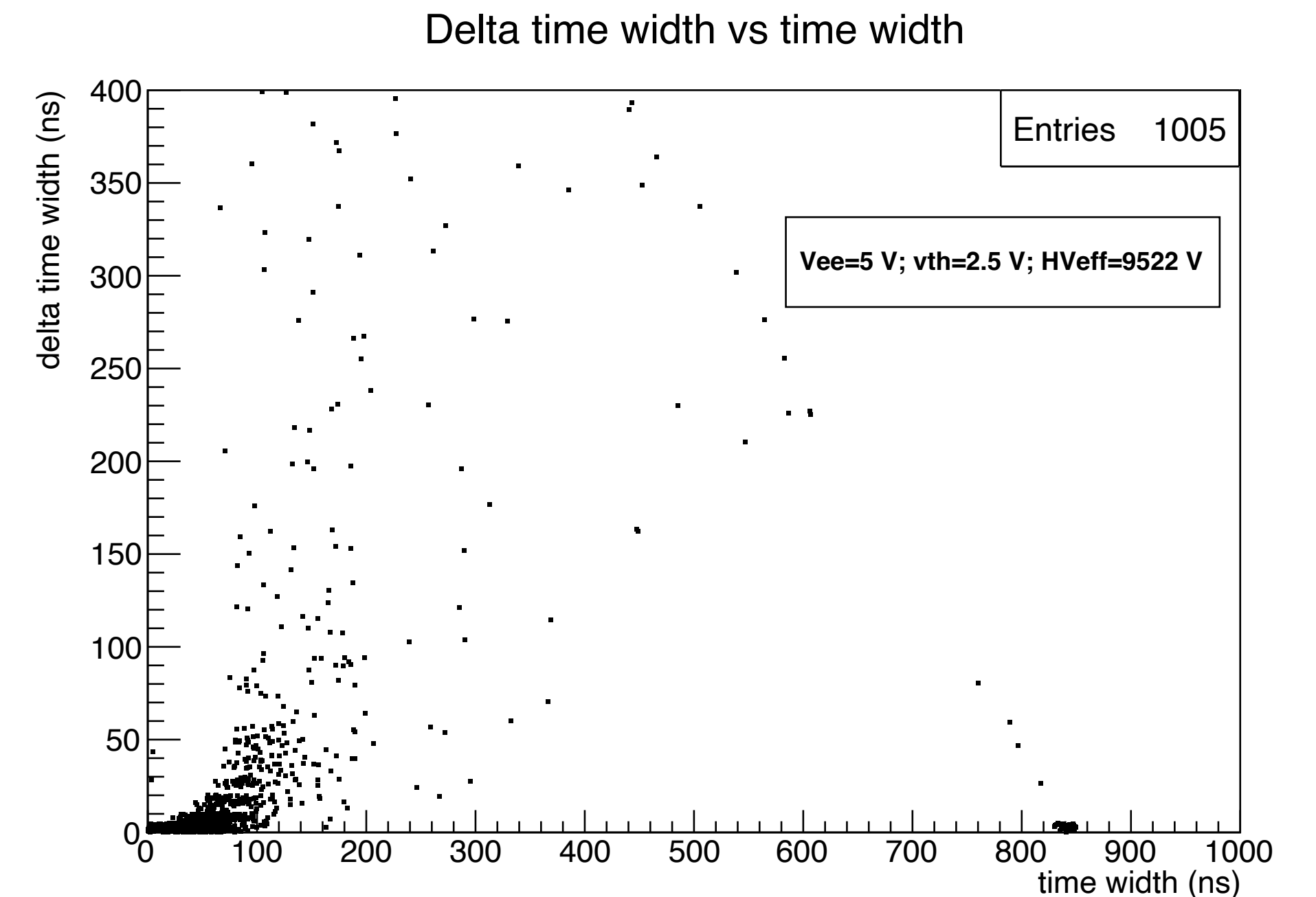
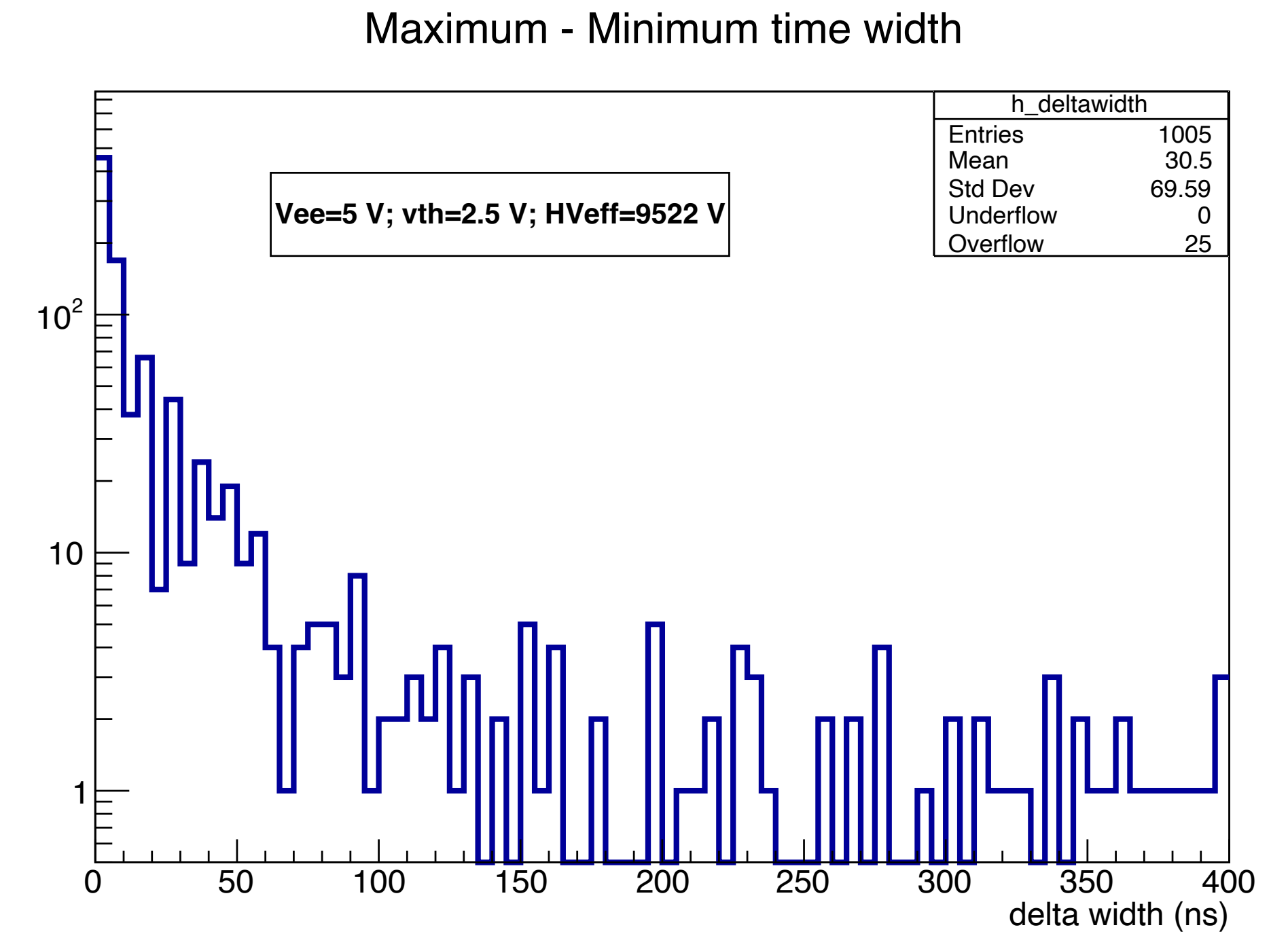
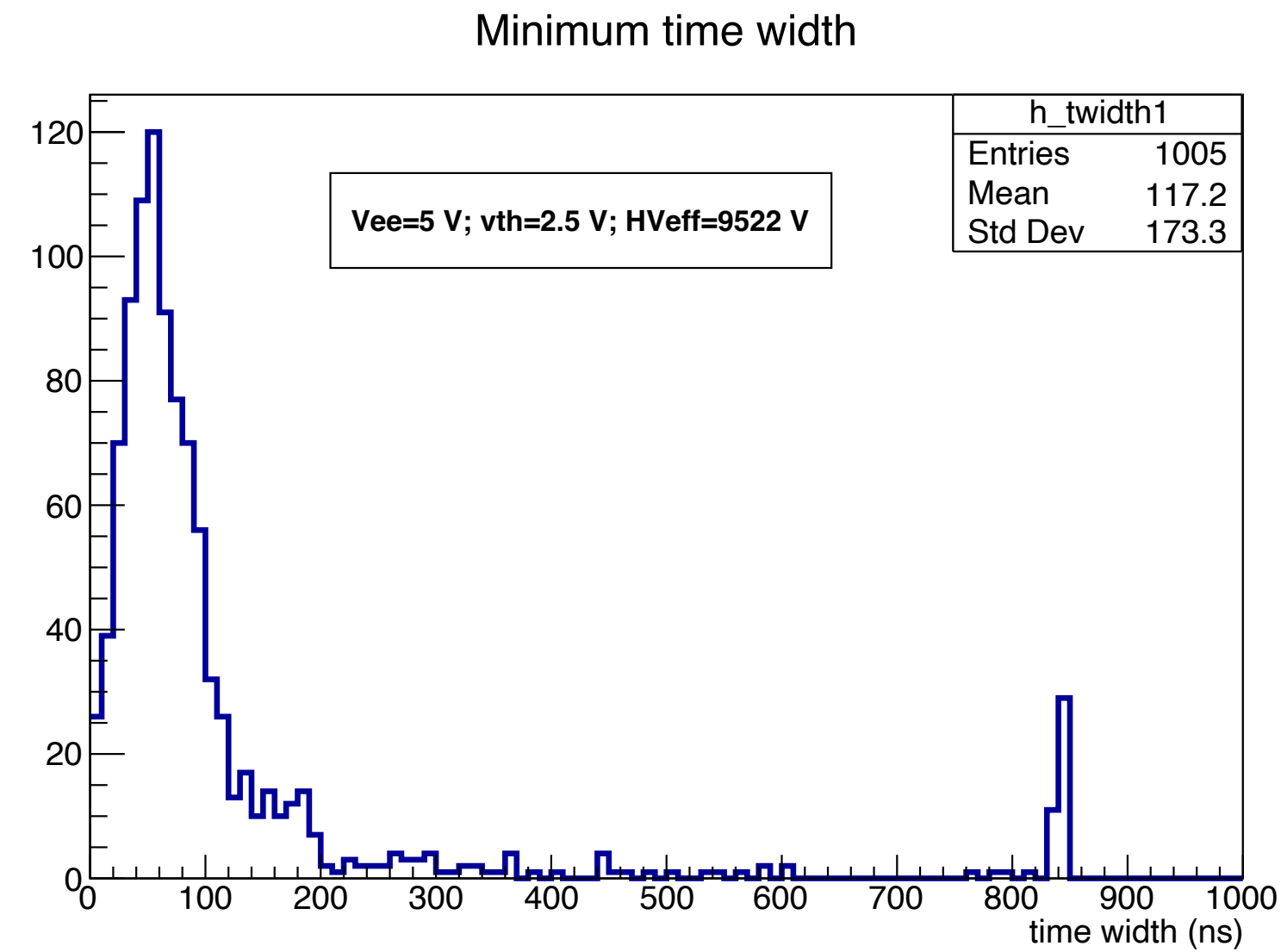
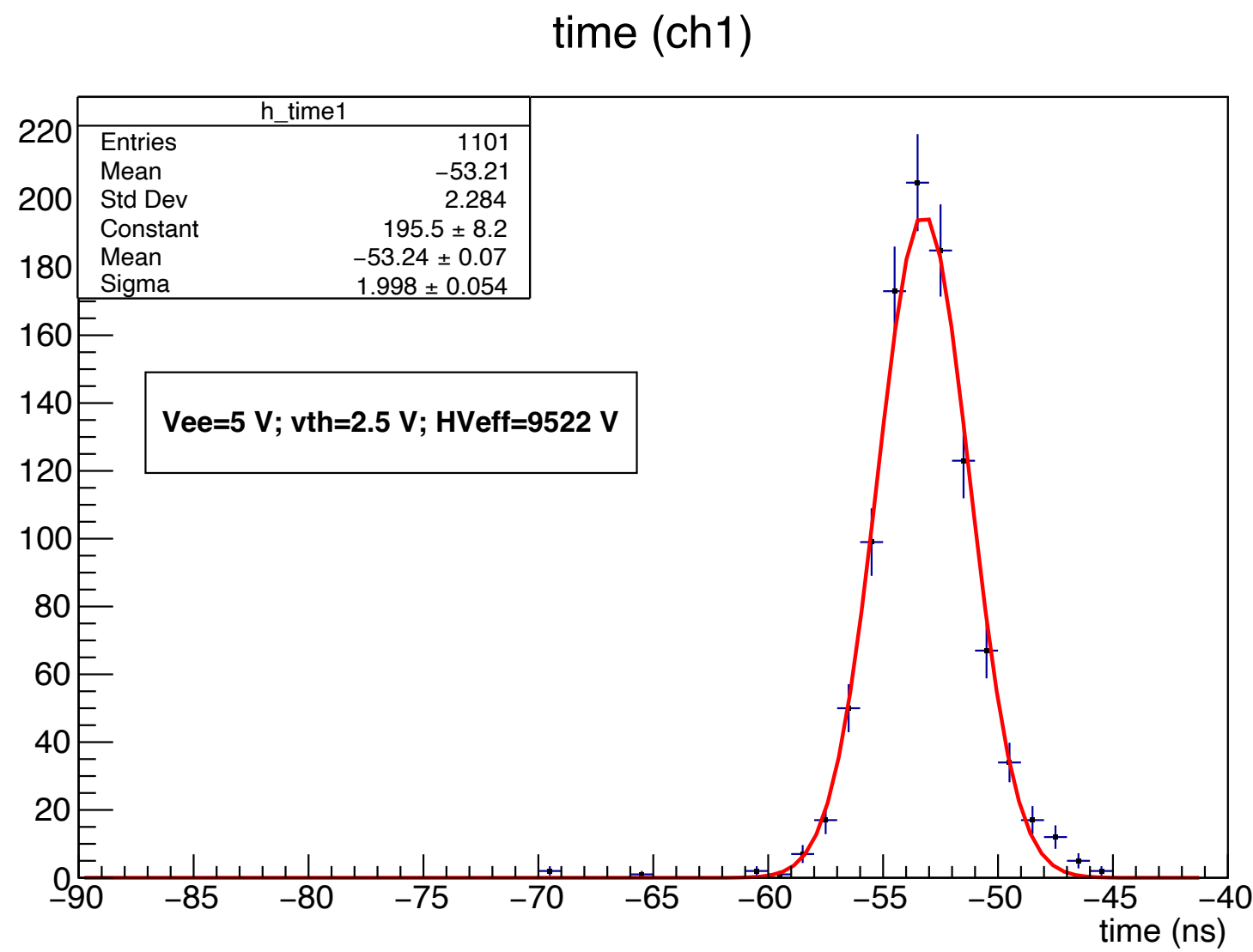


Delta time width vs time width



- Amplif. 1 stadio:
 - Vsupply=5 V
 - Vth=3.5 V
- 2mm gap: HVeFF = 9560 V
- Threshold Analisi = 100 mV
- **Efficienza = 94%**
- **Time resolution = 1.95 ns**

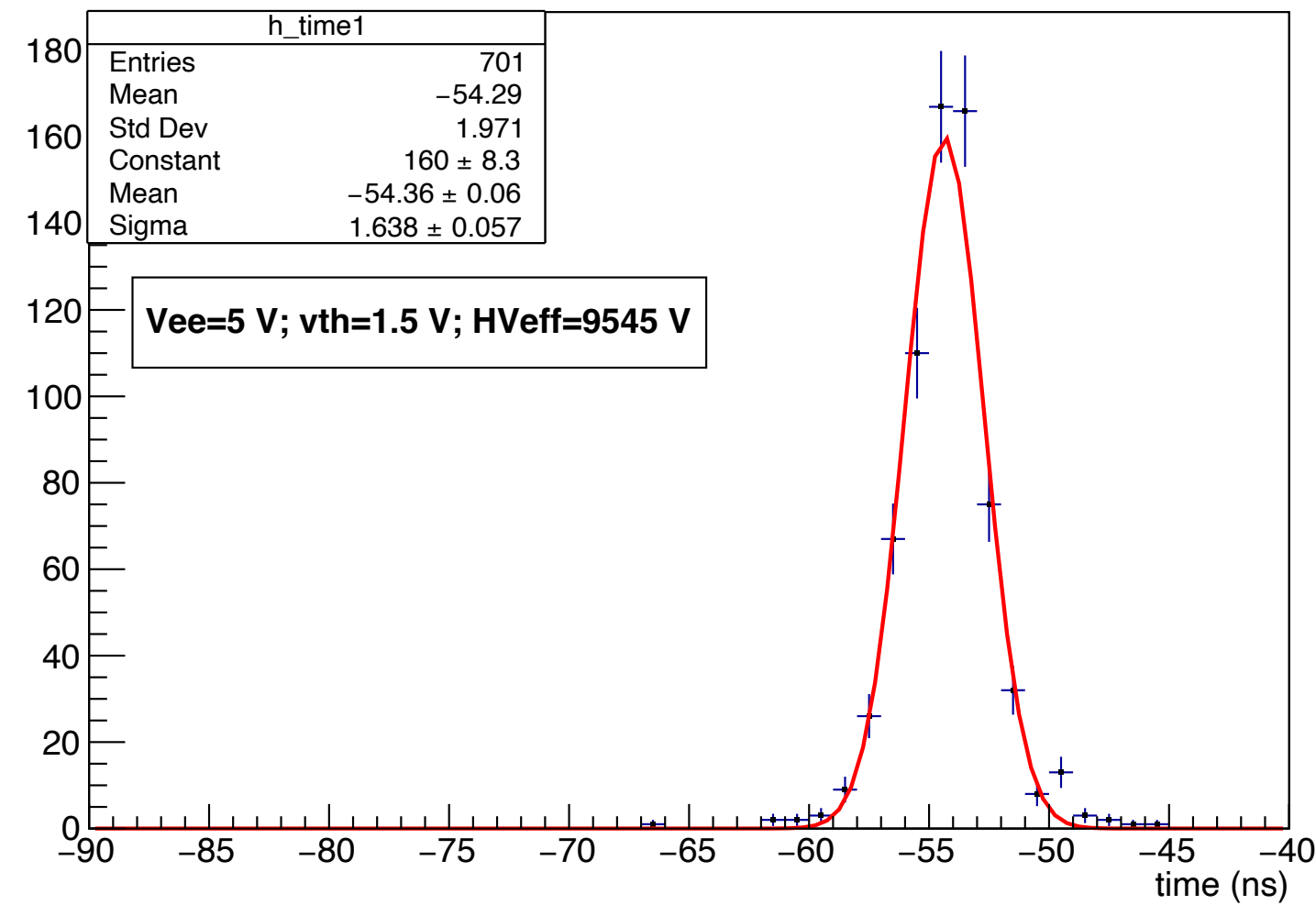
Runevee5_vth25_hv9400



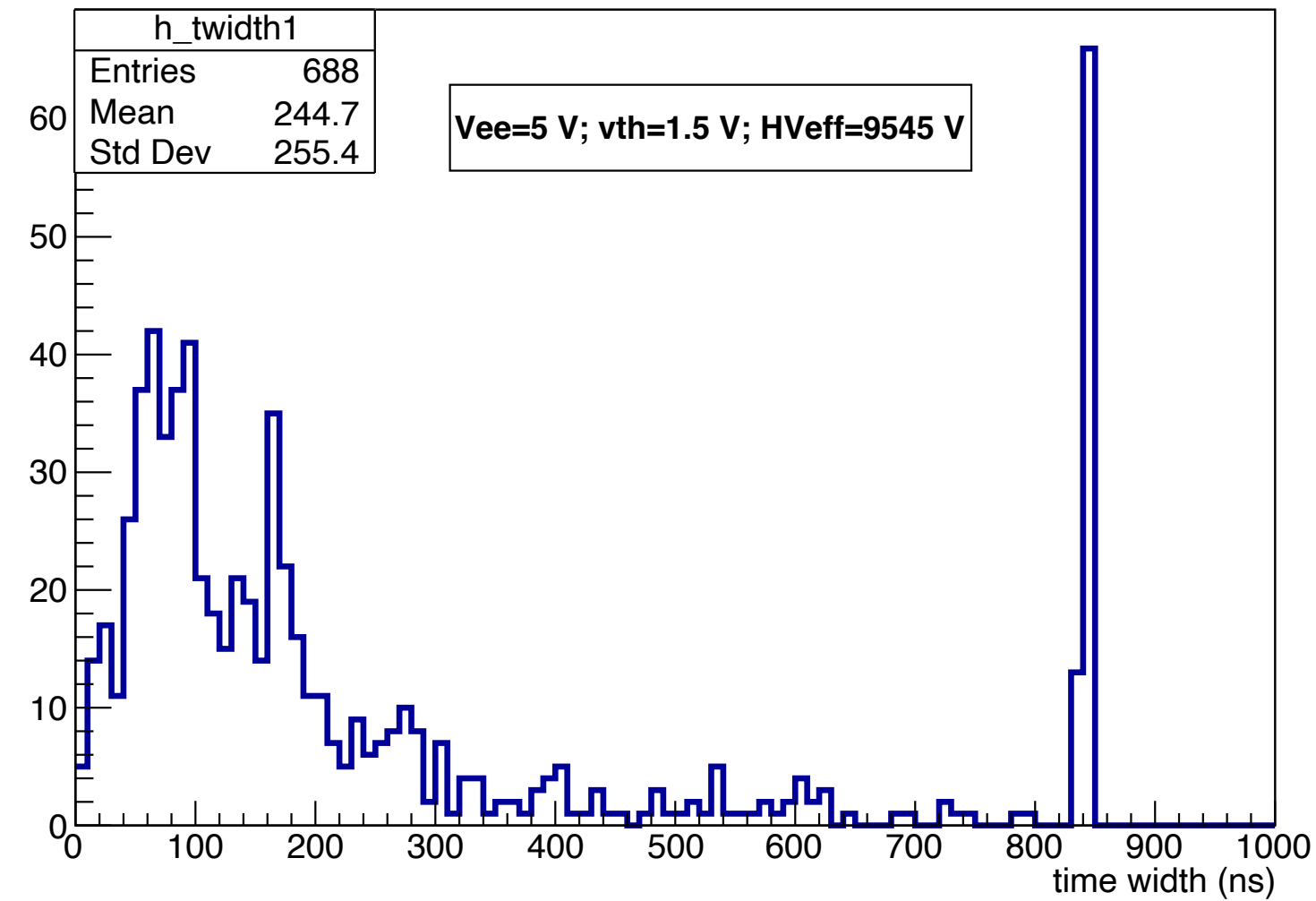
- Amplif. 1 stadio:
 - Vsupply=5 V
 - Vth=2.5 V
- 2mm gap: HVEff = 9522 V
- Threshold Analisi = 100 mV
- **Efficienza = 91.2%**
- **Time resolution = 2 ns**

Runevee5_vth15_hv9400

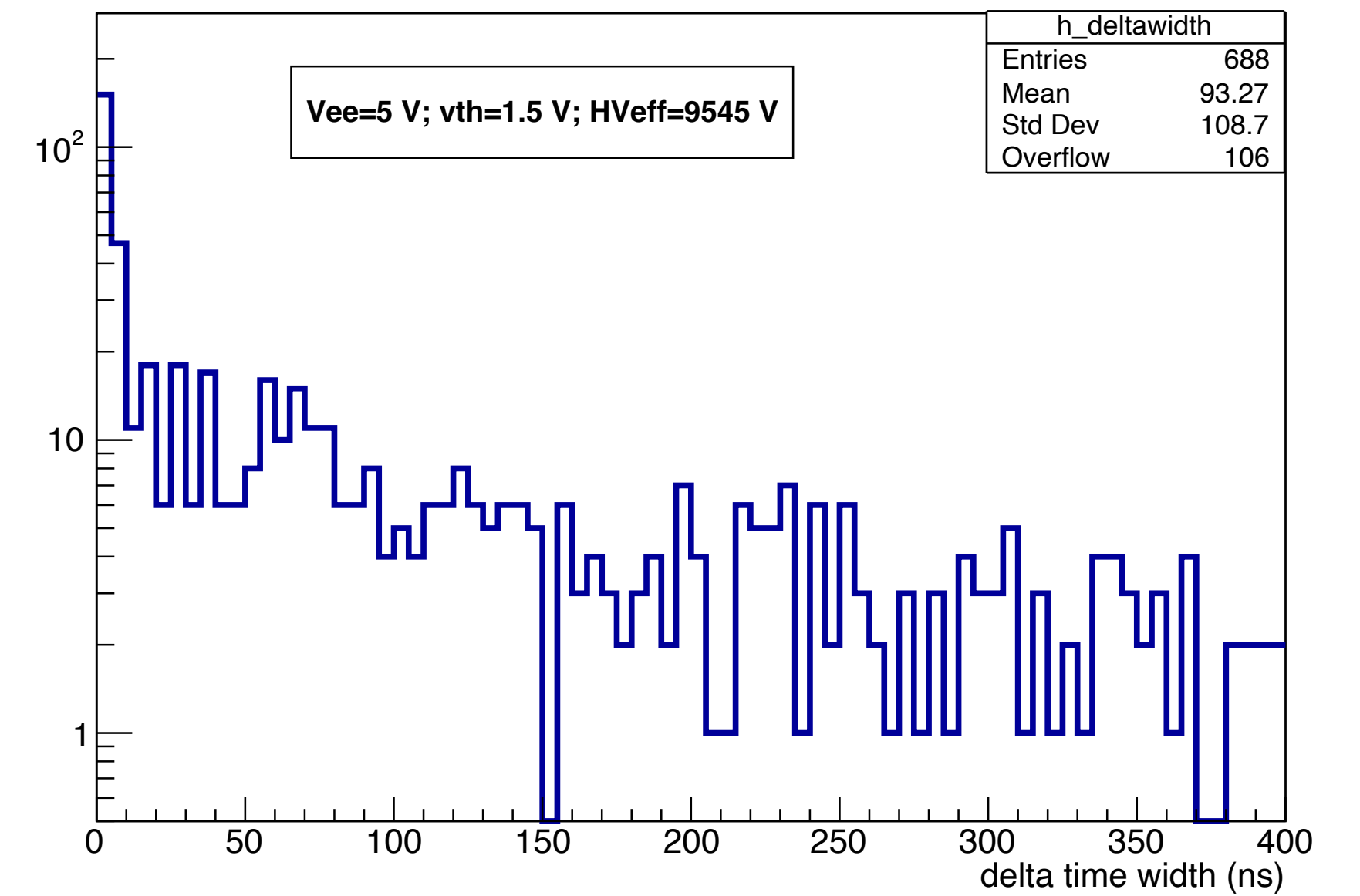
time (ch1)



Minimum time width

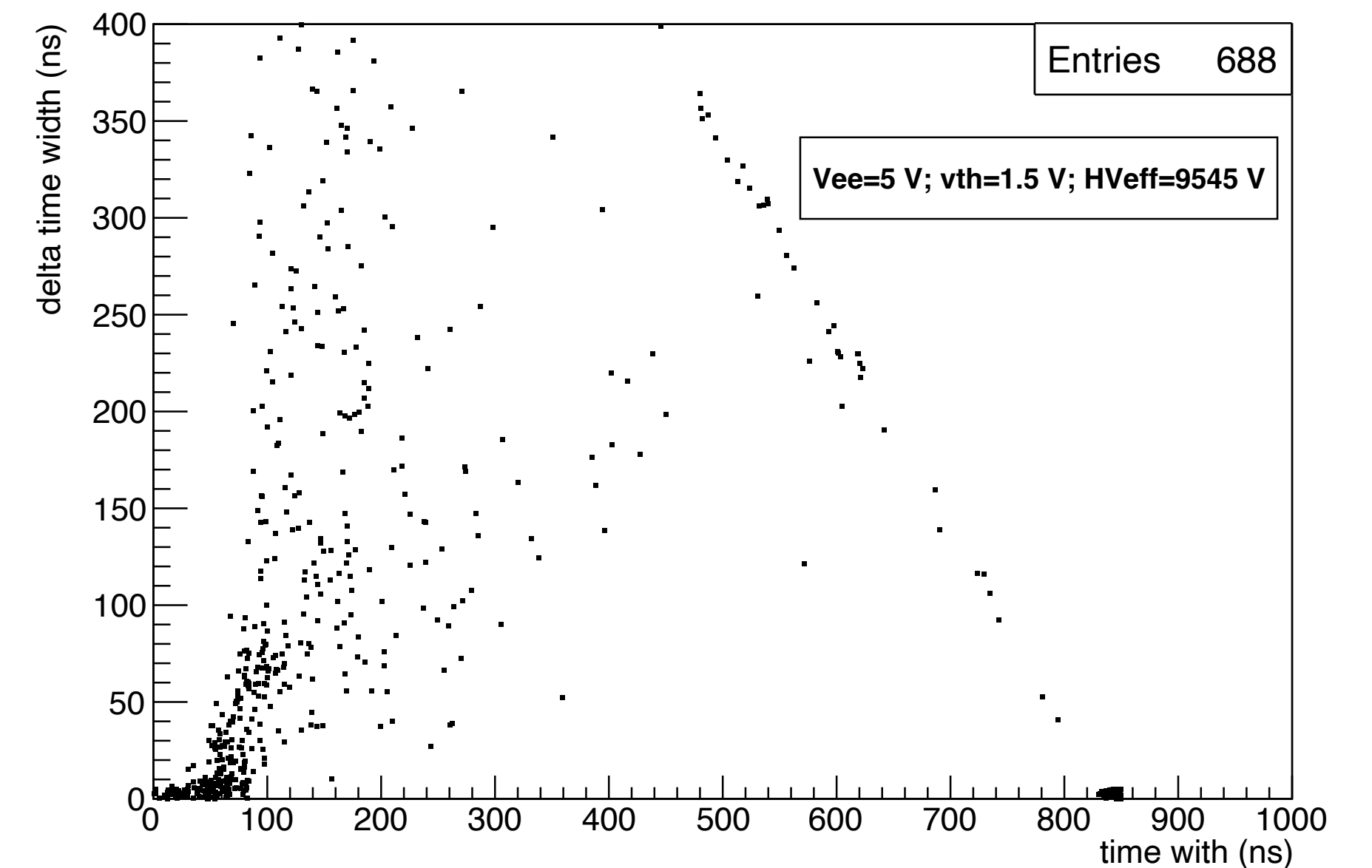


Maximum - Minimum time width



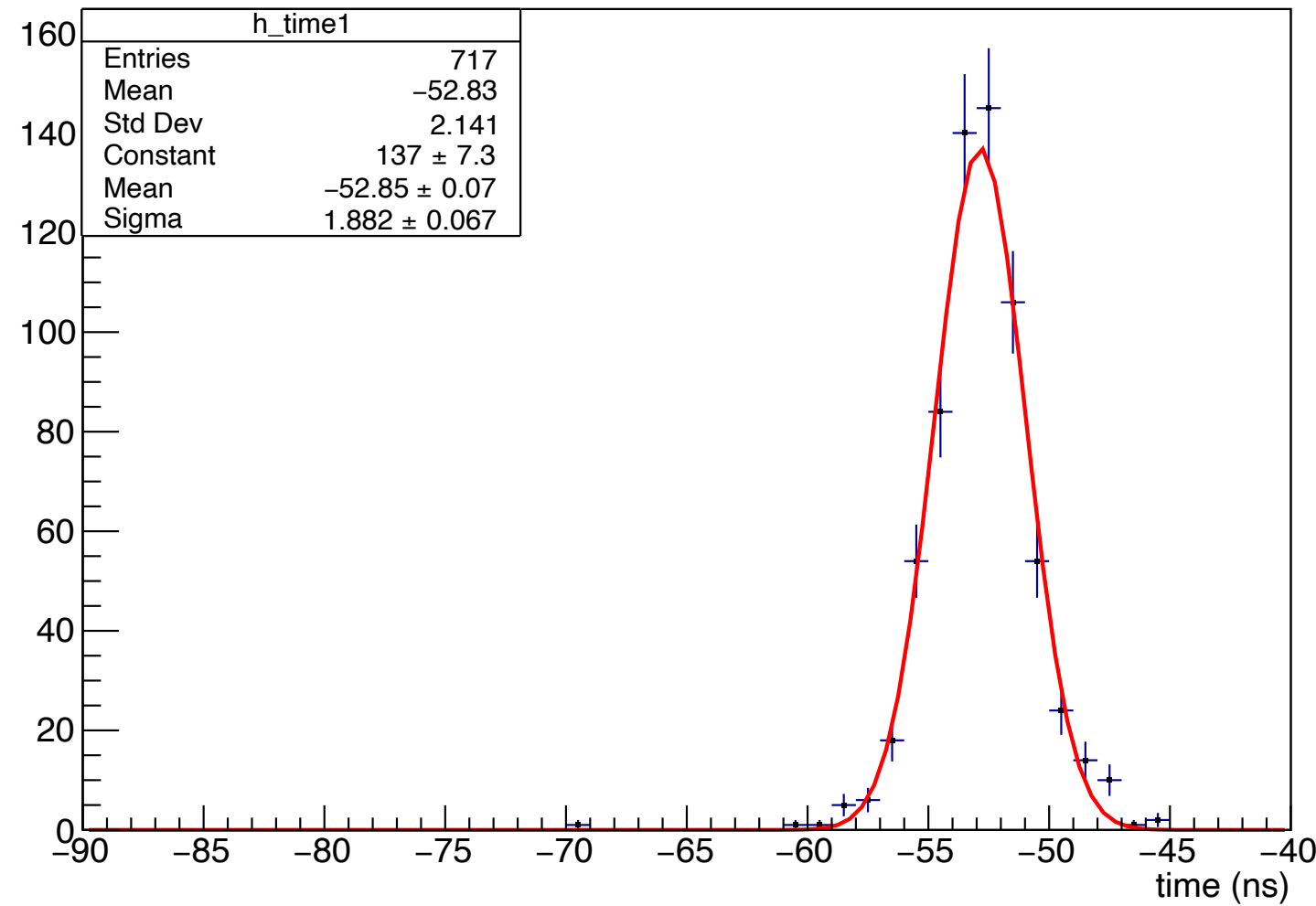
- Amplif. 1 stadio:
 - Vsupply=5 V
 - Vth=1.5 V
- 2mm gap: HVeFF = 9545 V
- Threshold Analisi = 100 mV
- **Efficienza = 98.1. %**
- **Time resolution = 1.6 ns**

Delta time width vs time width

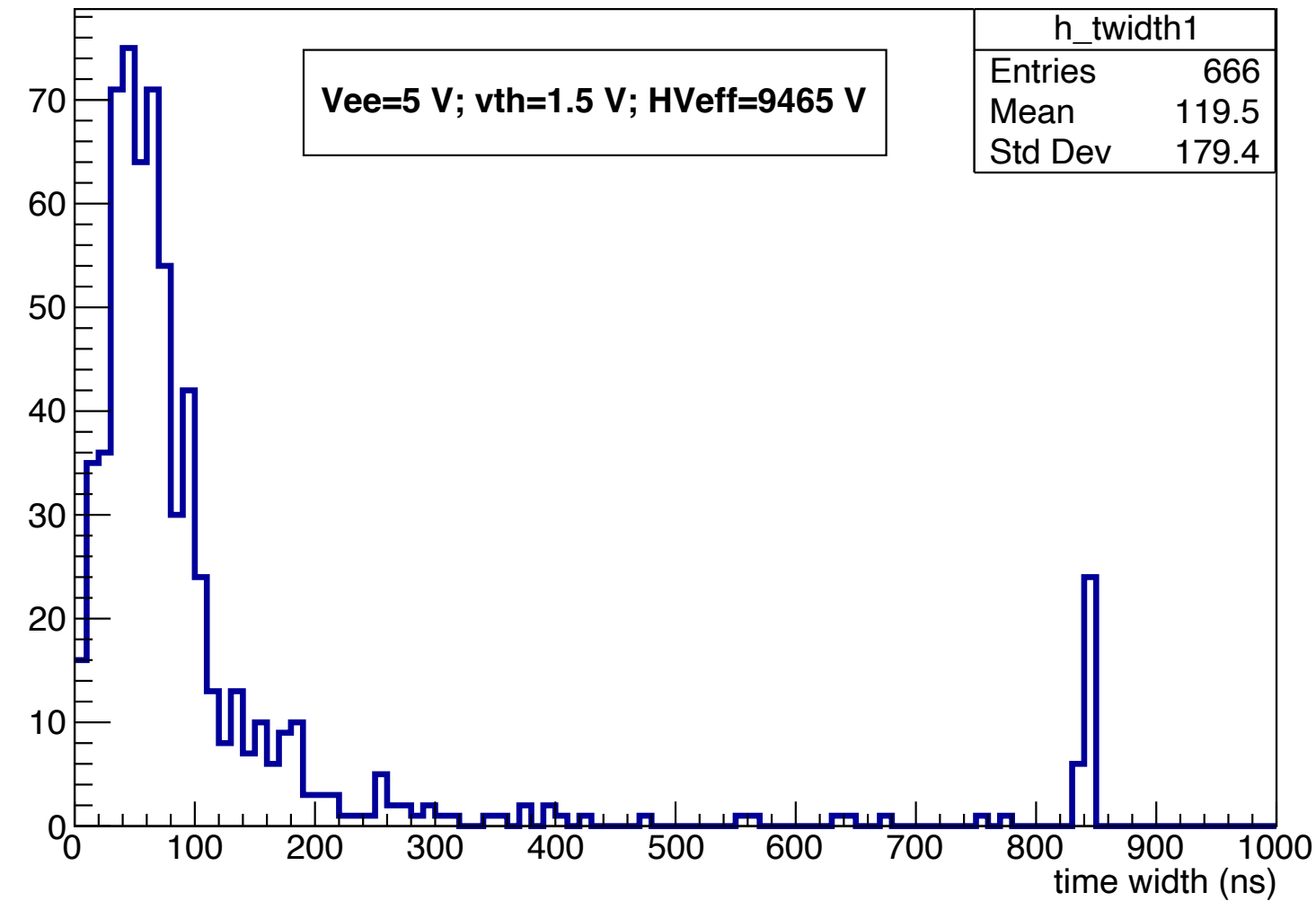


Runevee5_vth15_hv9300

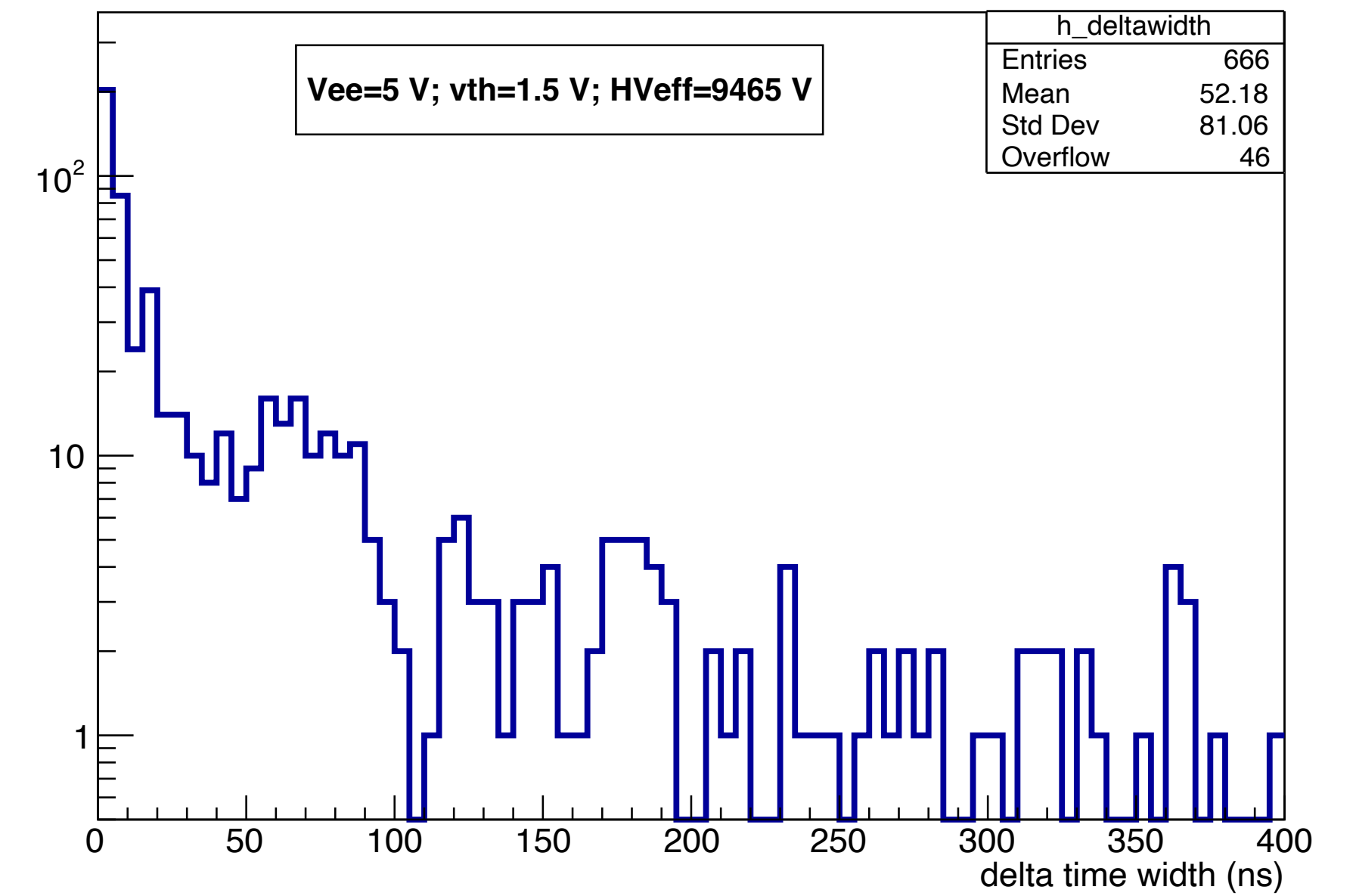
time (ch1)



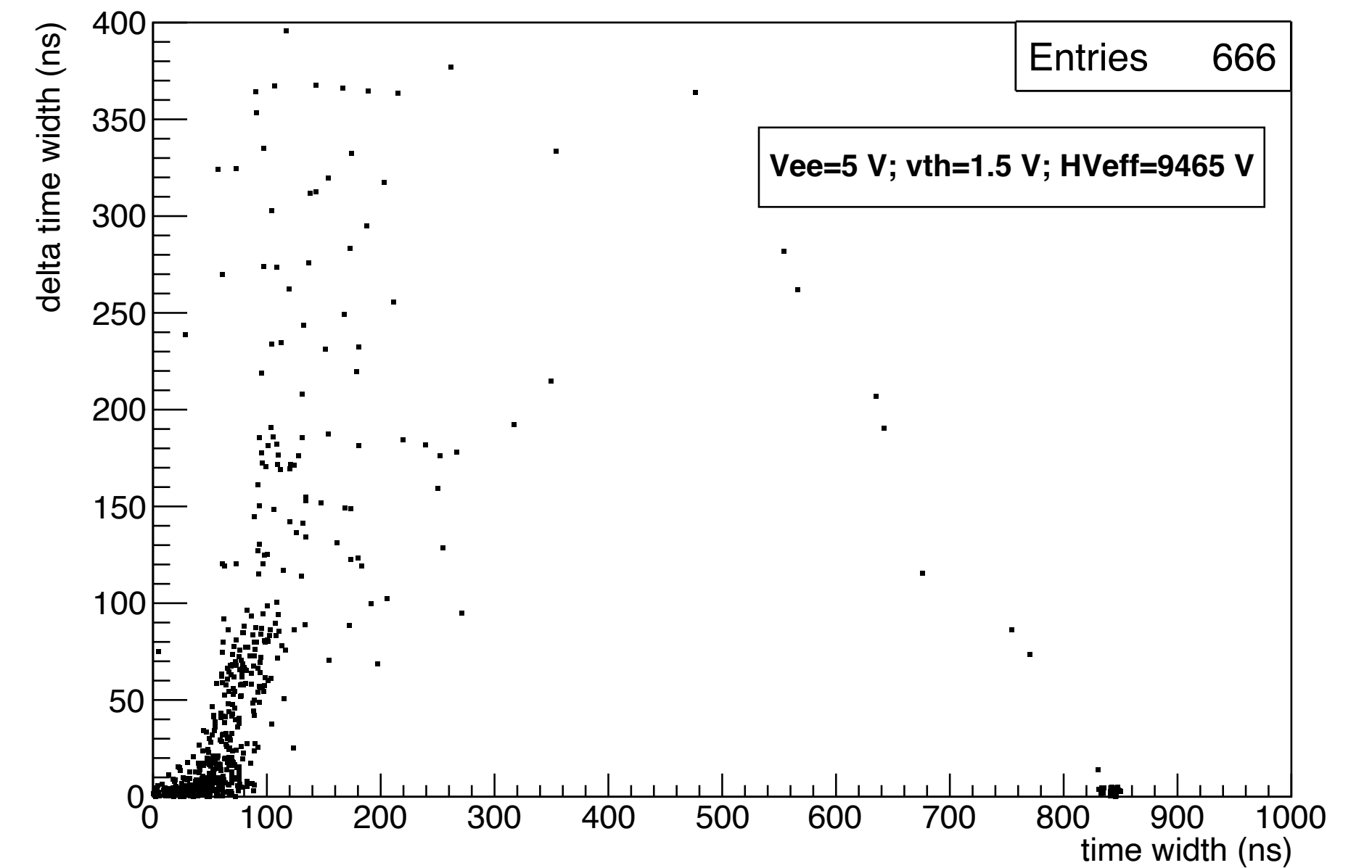
Minimum time width



Maximum - Minimum time width



Delta time width vs time width



- Amplif. 1 stadio:
 - Vsupply=5 V
 - Vth=1.5 V
- 2mm gap: HVe_{eff} = 9465 V
- Threshold Analisi = 100 mV
- **Efficienza = 93%**
- **Time resolution = 1.9 ns**

Nuovo layout su camera full size

