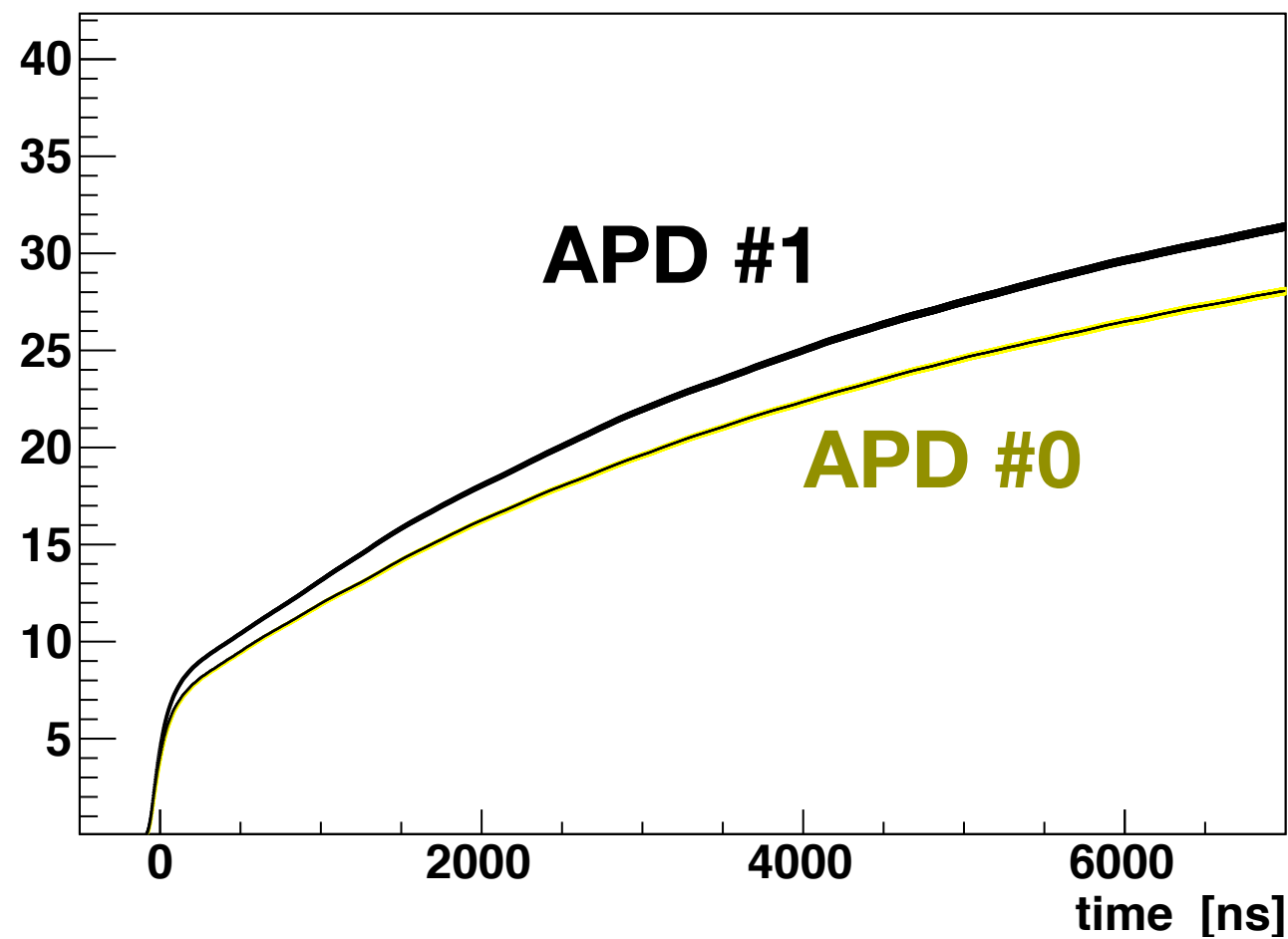


Primi risultati della presa dati in cosmici con filtro ottico **FGUV11** + sorgente ^{60}Co

R. de Sangro, G. Finocchiaro, M. Piccolo

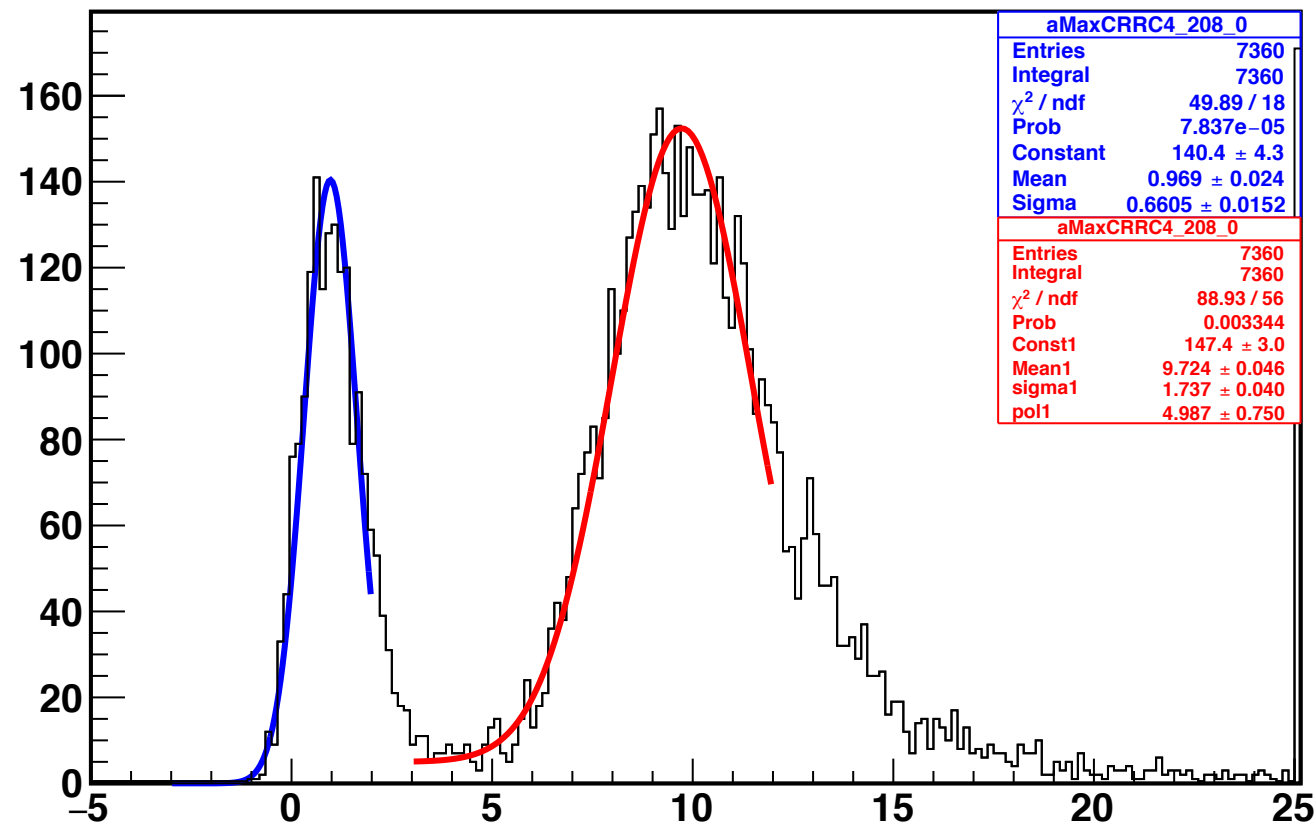
ECL Italia, 20 aprile 2016, Perugia

Reference of reference - run (208) at the ex-BABAR laboratory - APD#0



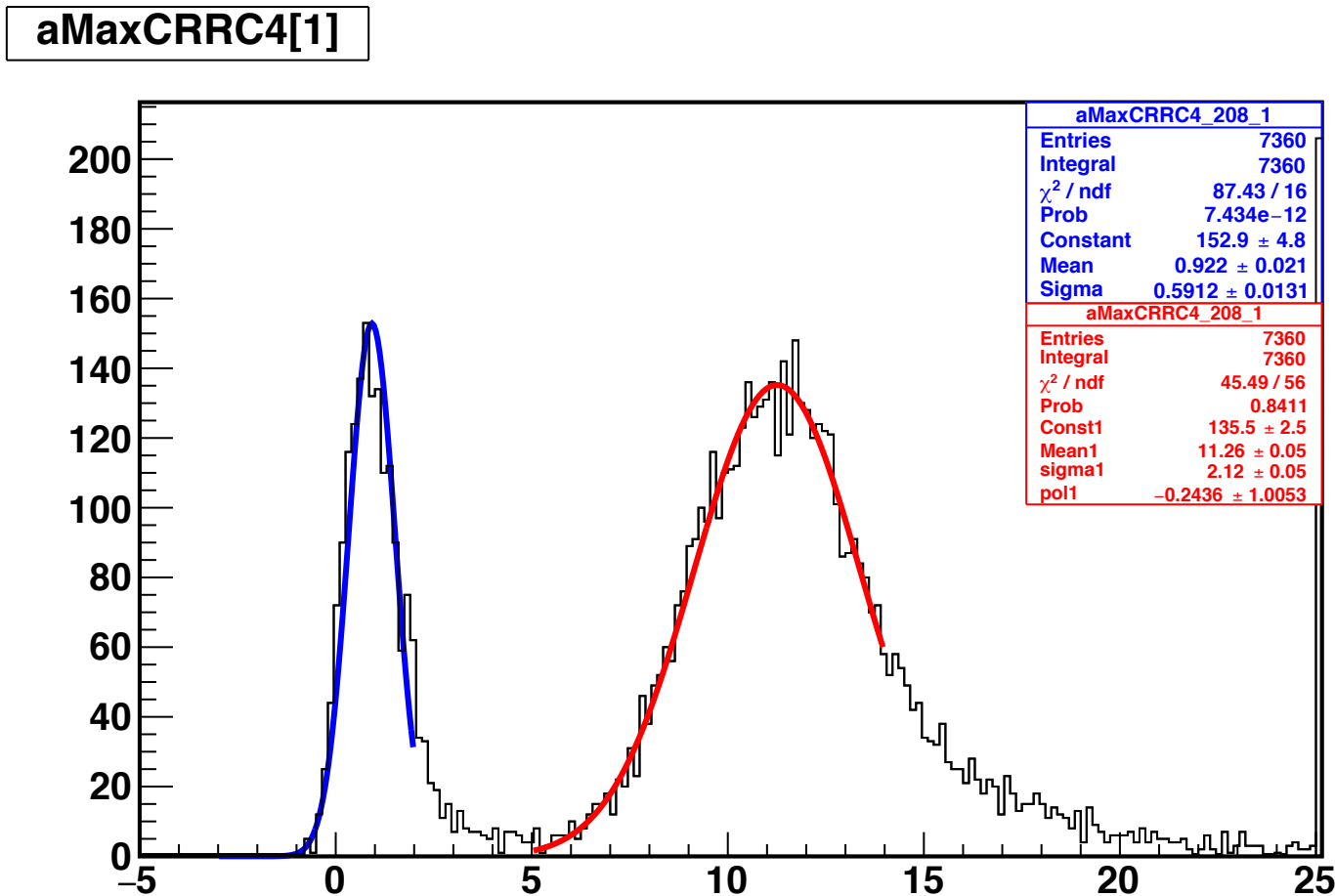
Reference of reference - run (208) at the ex-BABAR laboratory - APD#0

aMaxCRRC4[0]



- amplitude = 8.75 ± 0.05 mV ENE = 2.26 ± 0.05 MeV

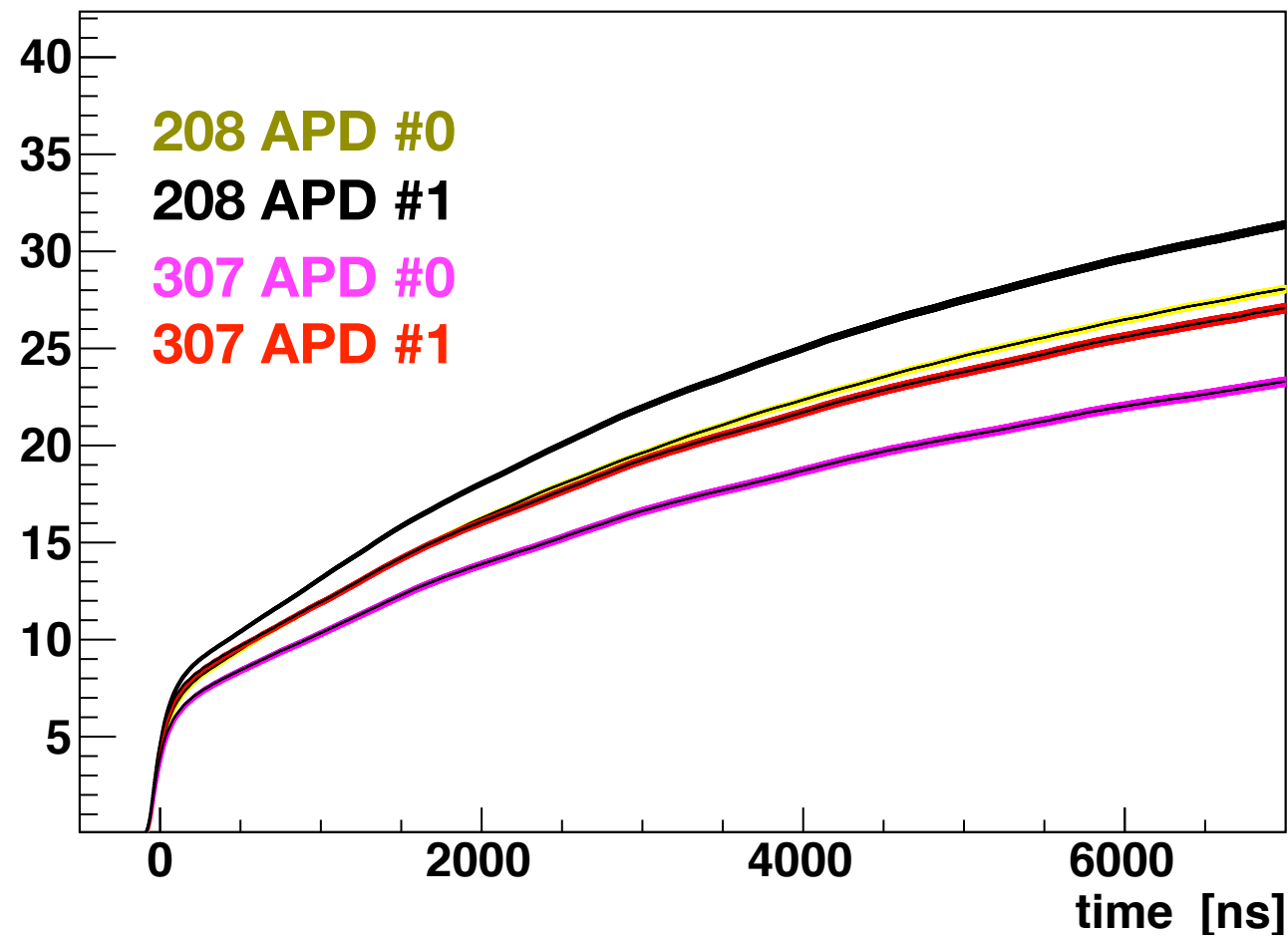
Reference of reference - run (208) at the ex-BABAR laboratory - APD#1



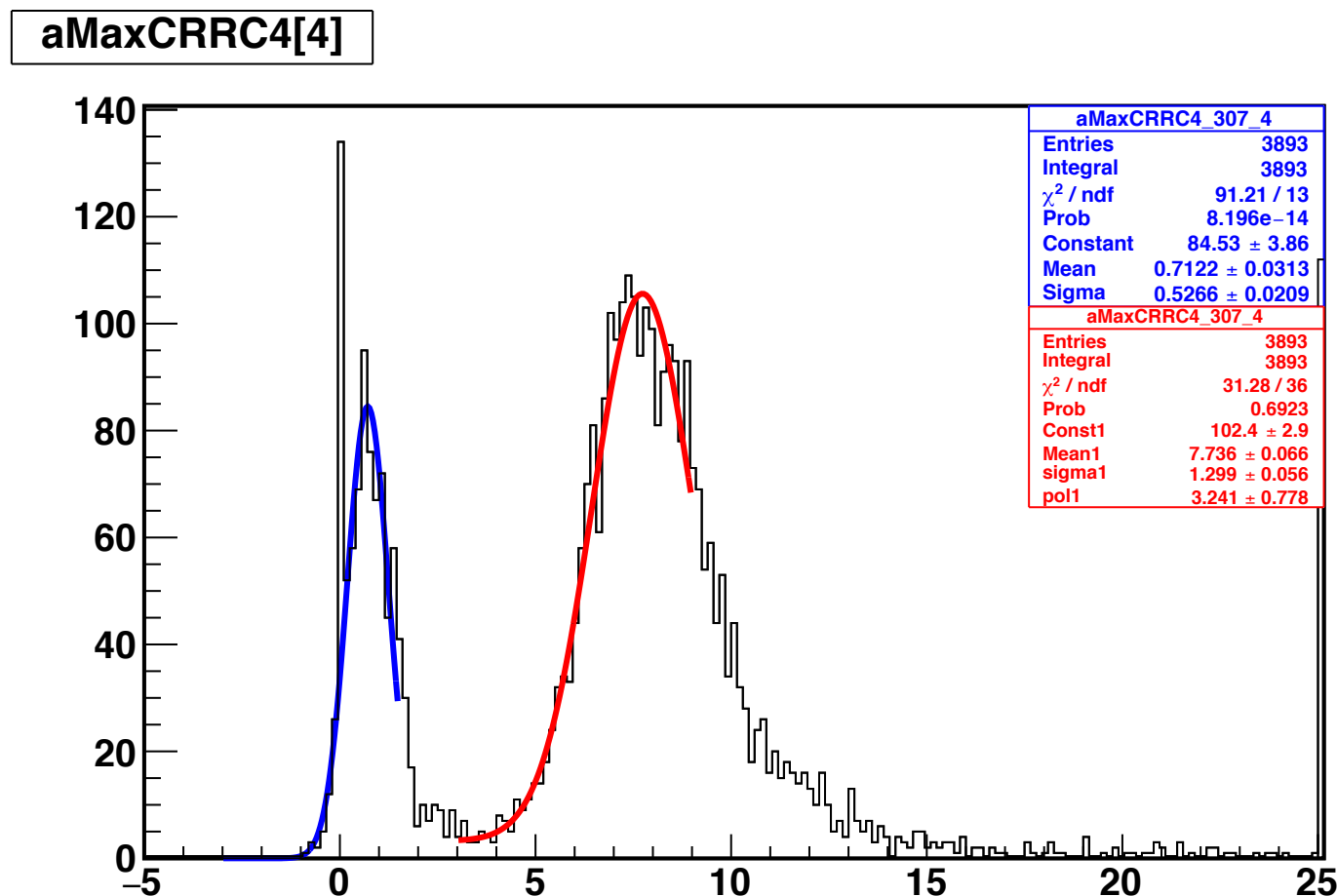
- amplitude = 10.33 ± 0.05 mV ENE = 1.72 ± 0.04 MeV

APD #1 has 18% higher signal, 25% better ENE than APD#0

Reference of optical filter- run (307) at the radioactive source lab



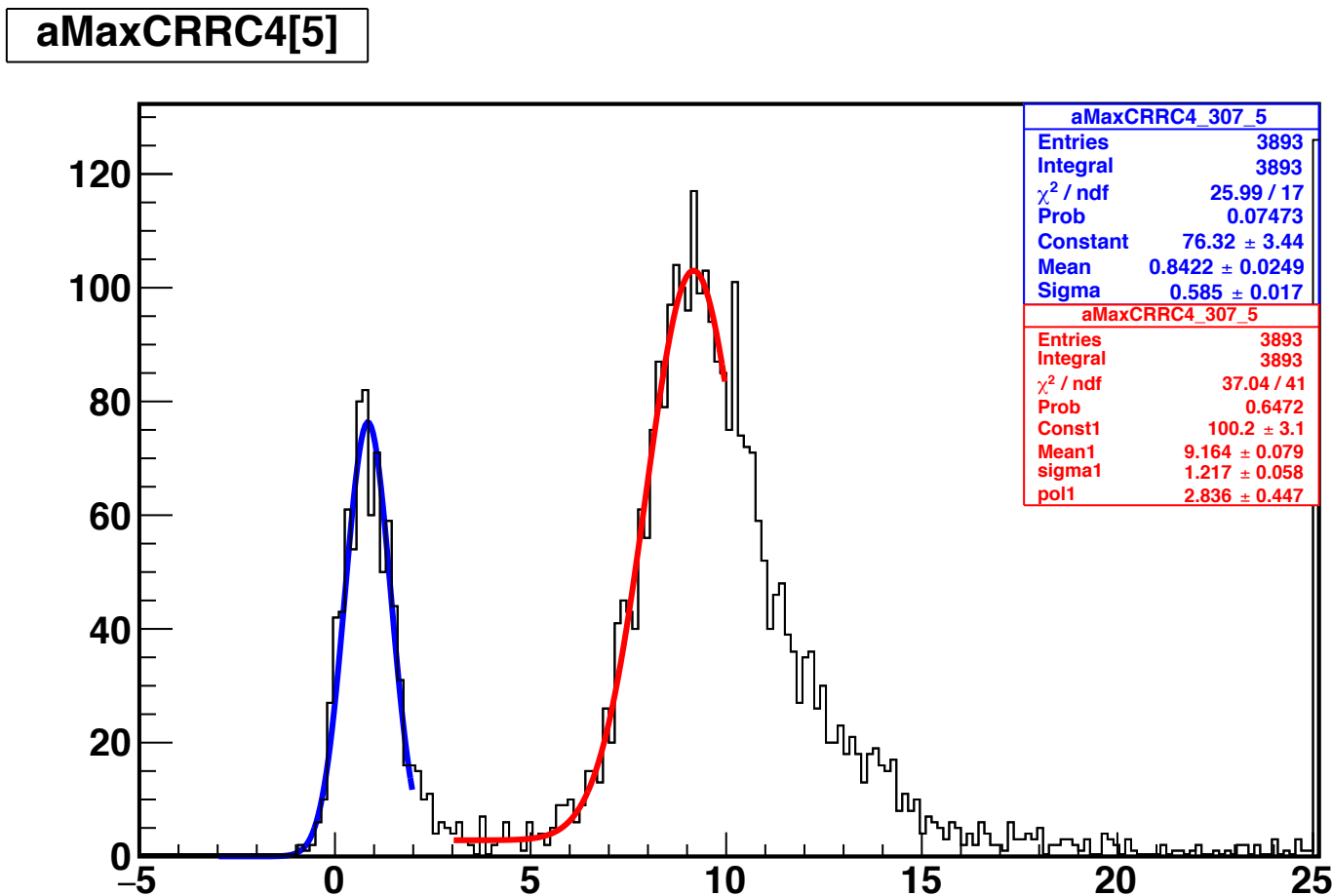
Reference of optical filter- run (307) at the radioactive source lab - APD#0



- amplitude = 7.02 ± 0.07 mV ENE = 2.25 ± 0.09 MeV

APD#0 has 25% smaller signal, similar ENE wrt run 208

Reference of optical filter- run (307) at the radioactive source lab - APD#1

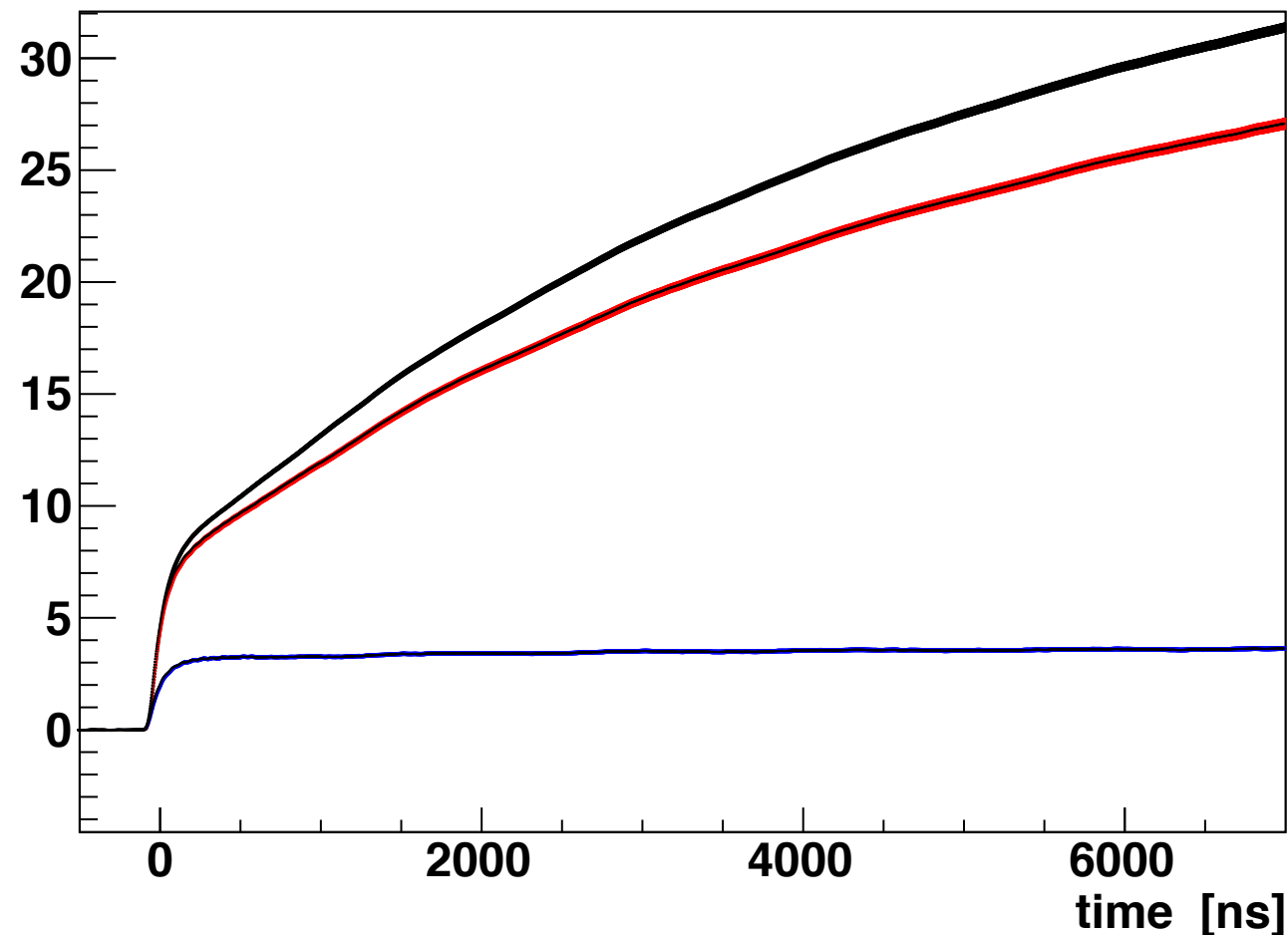


- amplitude = 8.32 ± 0.08 mV ENE = 2.11 ± 0.07 MeV

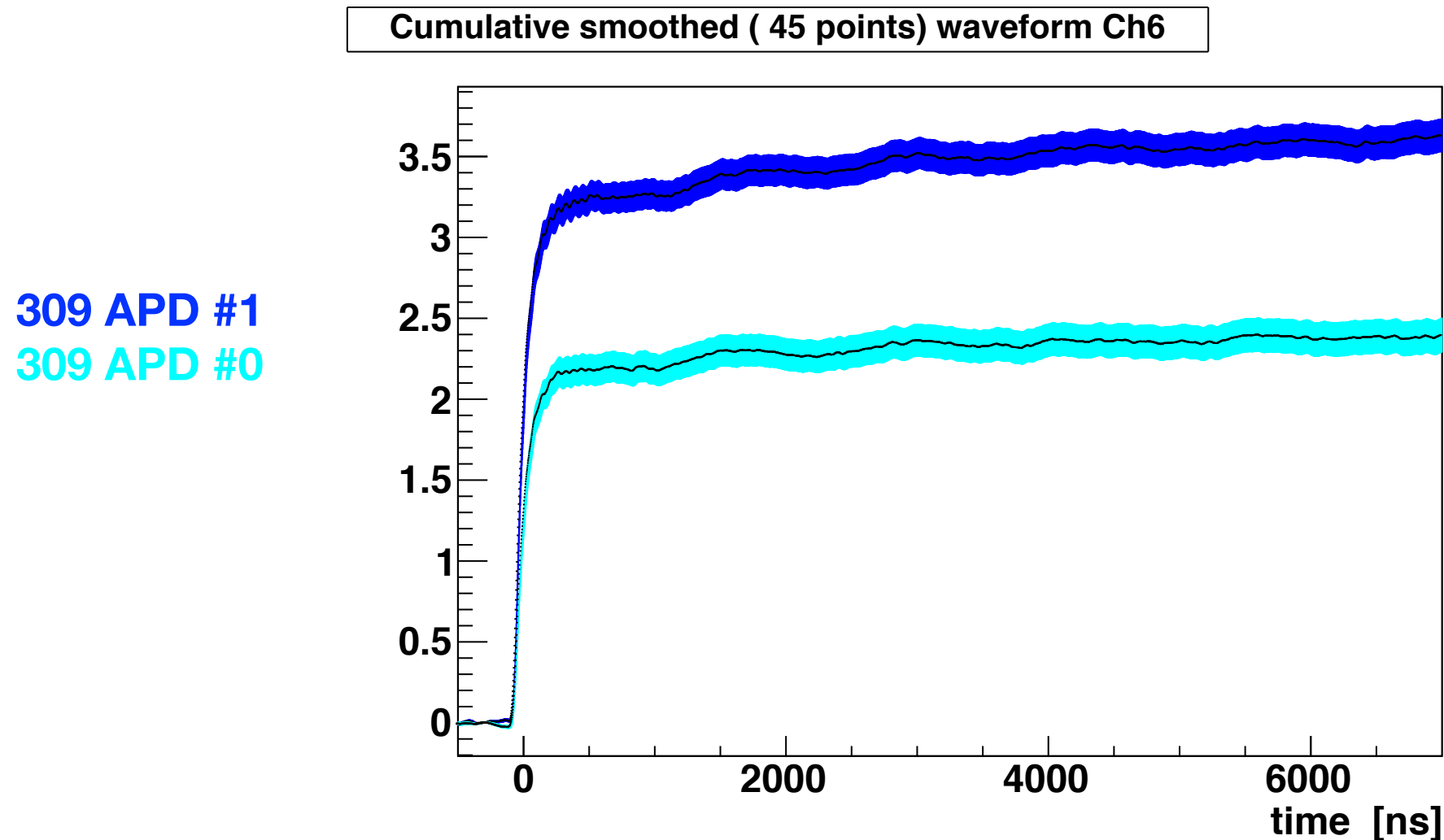
APD#1 has 24% smaller signal, ENE 20% larger wrt run 208

W/ optical filter- run (309) at the radioactive source lab

208 APD #1
307 APD #1
309 APD #1

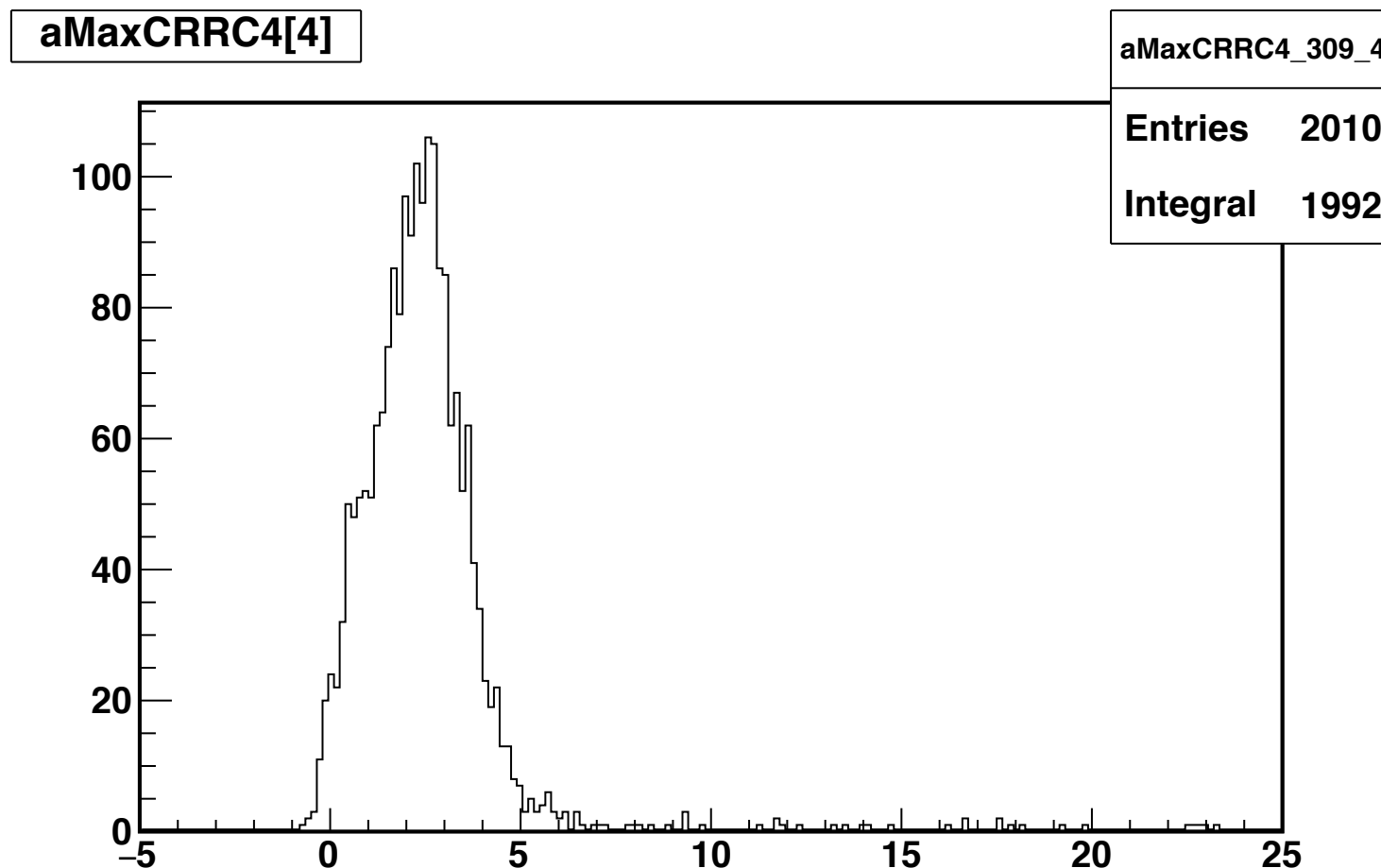


W/ optical filter- run (309) at the radioactive source lab



APD #0/APD#1 ~ 0.60, much worse

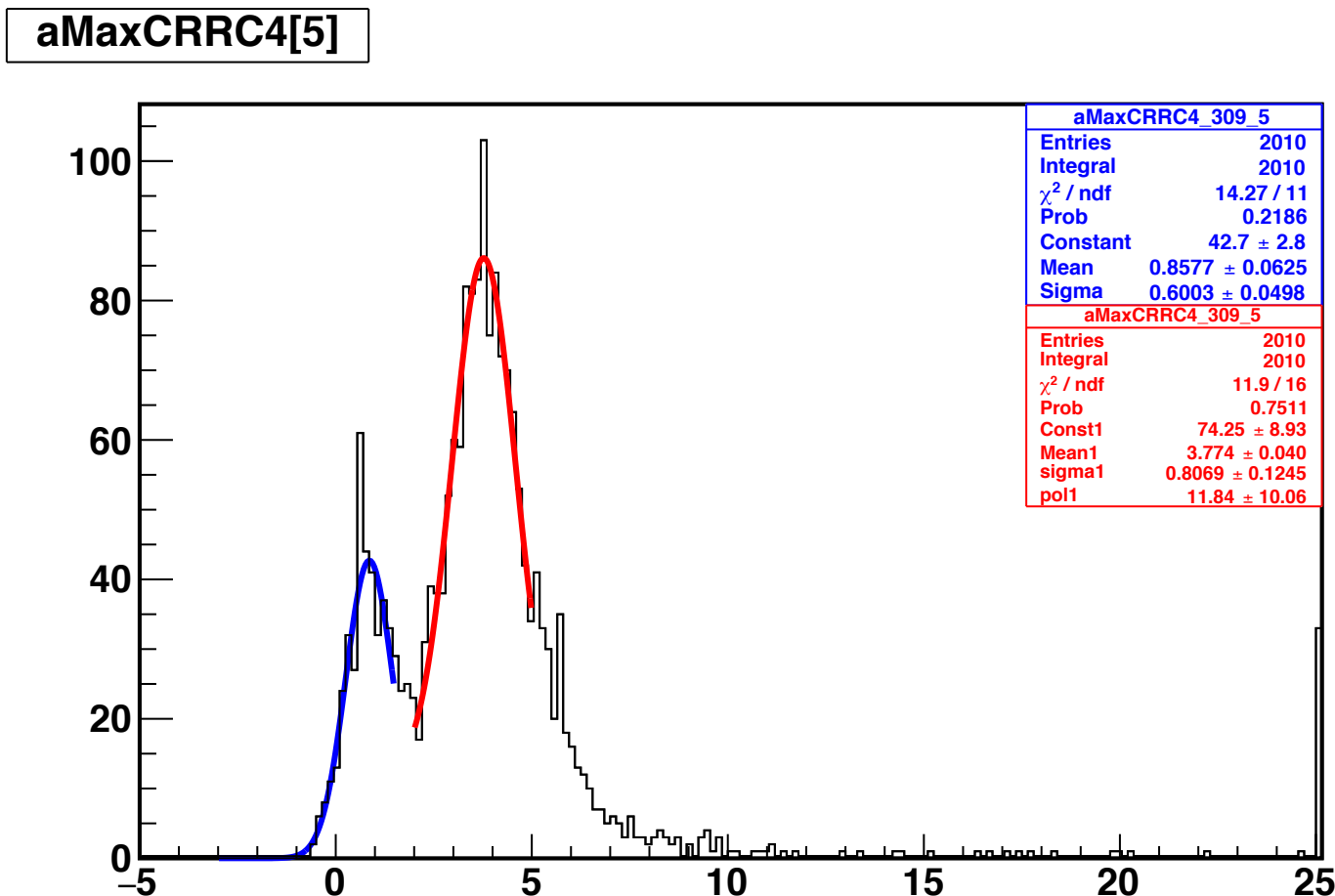
W/ optical filter- run (309) at the radioactive source lab - APD#0



- amplitude = $?? \pm ??$ mV ENE = $?? \pm ??$ MeV

In run 309, APD#0 signal not resolved from pedestal

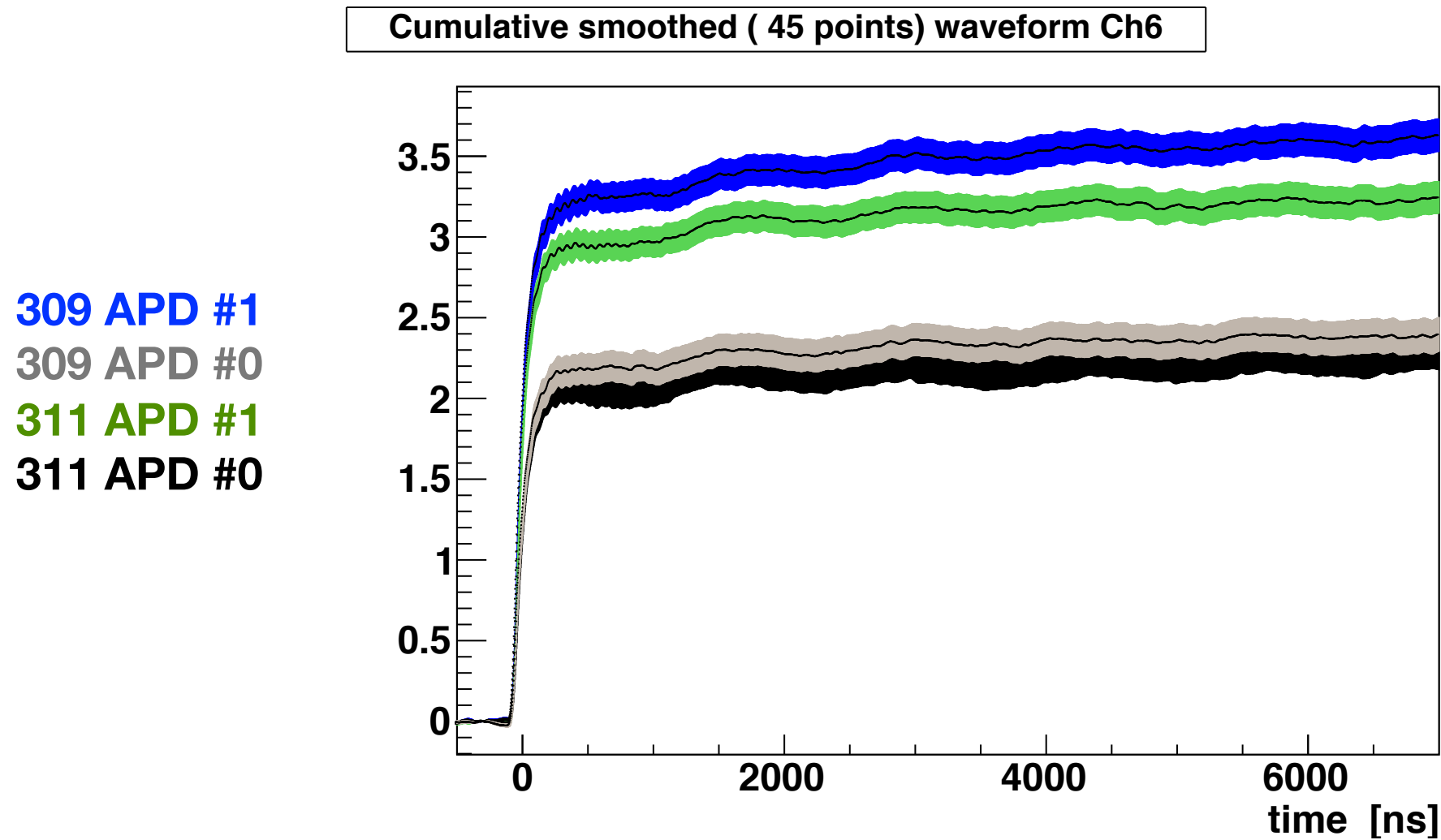
W/ optical filter- run (309) at the radioactive source lab - APD#1



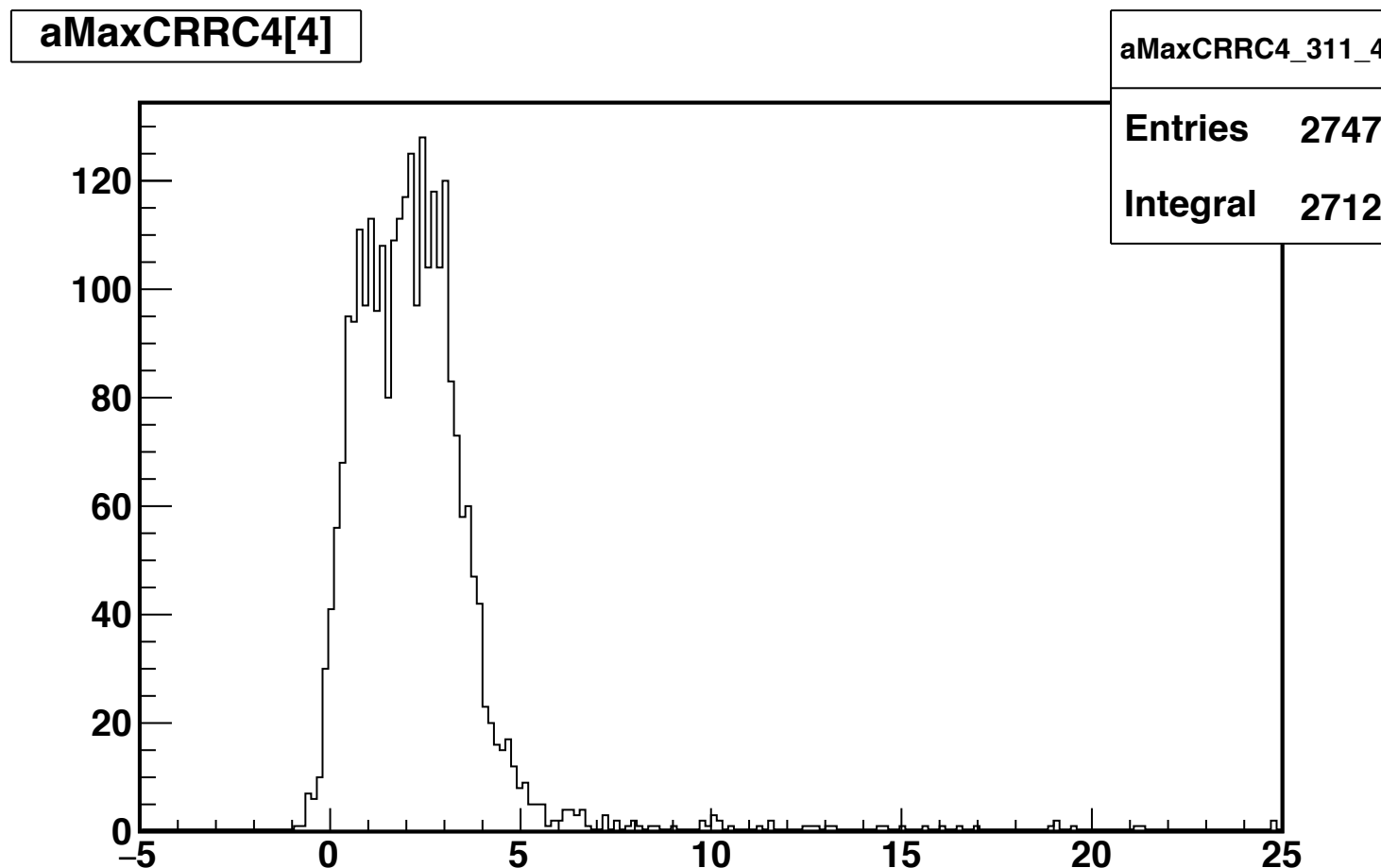
- amplitude = 2.92 ± 0.07 mV ENE = 6.18 ± 0.54 MeV

signal (filter)/signal(no filter) = 35%
ENE (filter) / ENE(no filter) = 2.9

W/ optical filter + source - run (311) at the radioactive source lab



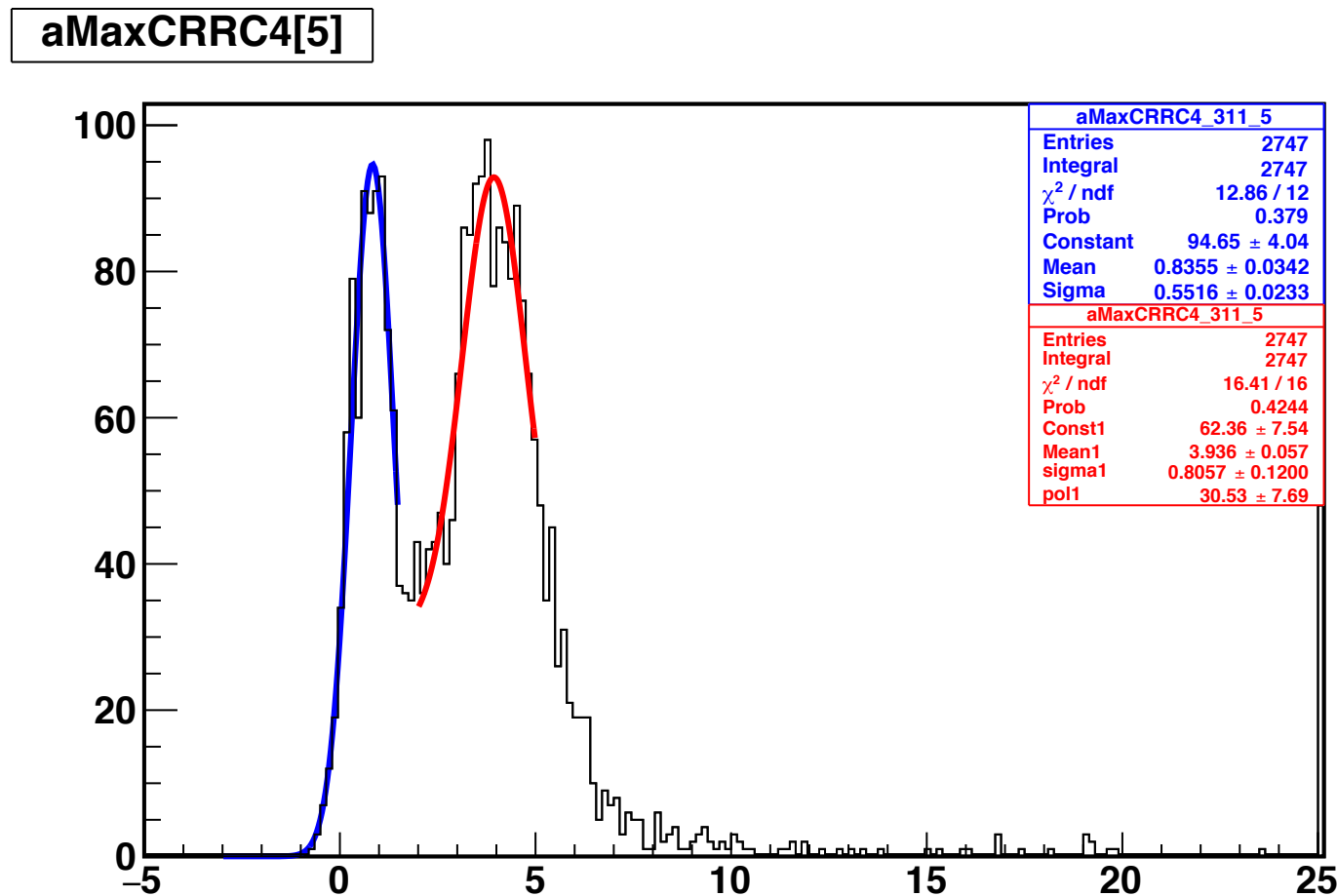
W/ optical filter + source - run (311) at the radioactive source lab - APD#0



- amplitude = $?? \pm ??$ mV ENE = $?? \pm ??$ MeV

In run 311, APD#0 signal not resolved from pedestal

W/ optical filter + source - run (311) at the radioactive source lab - APD#1



- amplitude = 3.10 ± 0.07 mV ENE = 5.34 ± 0.25 MeV
- signal (filter+source)/signal(filter) = $1.06 \pm 0.03\%$**
ENE (filter+source) / ENE(filter) = 0.86 ± 0.07 (unchanged)

Riassumendo

- APD #1 sostanzialmente migliore di APD #0
- Differenza run 307/run 208 compatibile con variazione di temperatura di 4-5 gradi (possibile...)
- Nei run con il filtro:
 1. Il segnale di APD#0 addirittura non si distingue
 2. Il segnale di APD #1 si riduce a $\sim 1/3$ rispetto alla situazione senza filtro (ed **ENE aumenta x3**)
 3. La sorgente non induce peggioramenti né nell'ampiezza né nell'ENE rispetto alla situazione senza sorgente (soppressione della componente lunga)
- **3.** va nella direzione sperata ($ENE_{source} \sim ENE_{nosource}$) ma è necessario capire l'insoddisfacente stabilità comportamento dell'APD#0
 - ❖ ripetere le misure con differenti APD