Compton and His Scattering

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April 22, 2015
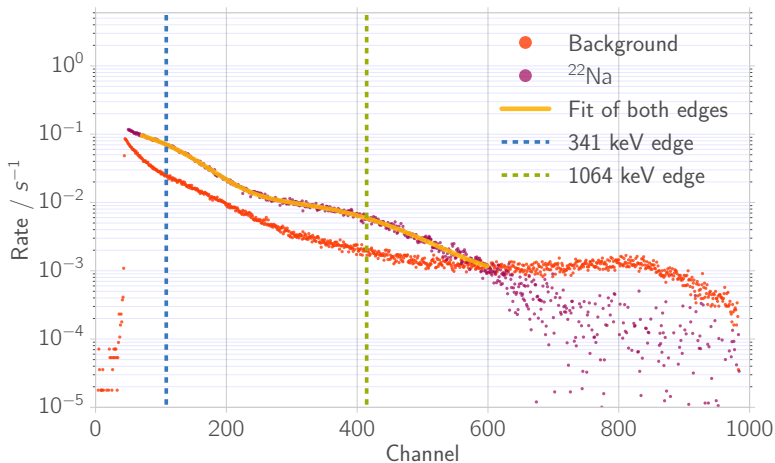
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^{22}Na sample (measurement time 16.5h)
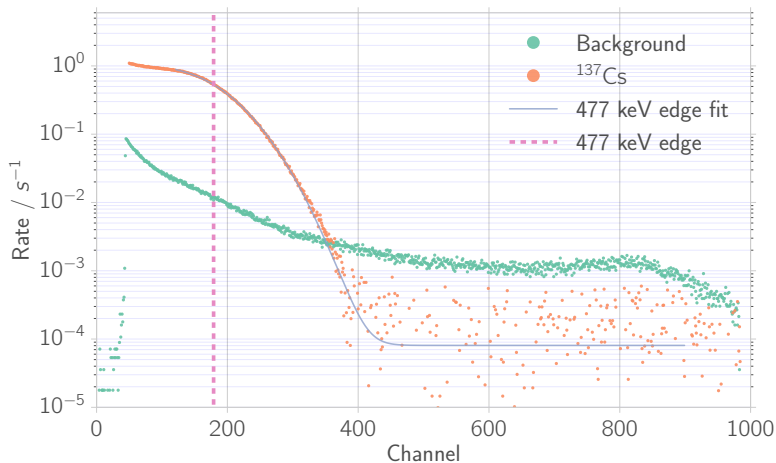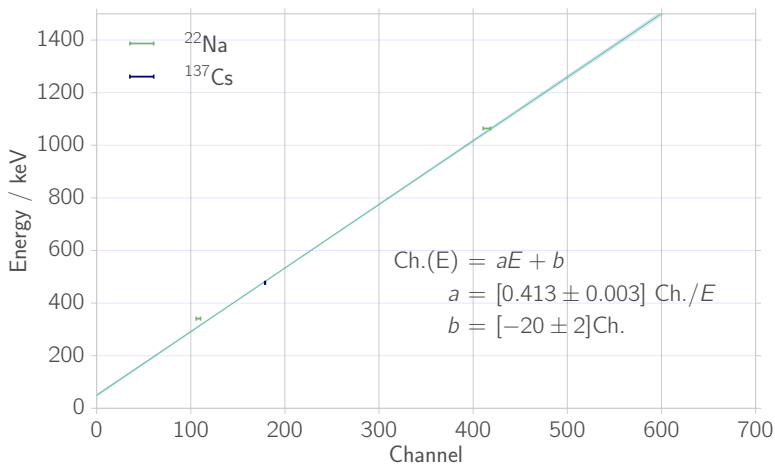
^{137}Cs sample (measurement time 6h)

Linear fit

Peaks and fitting results of ^{137}Cs

Name	Energy	Channel
Photo peak	662 keV	8040.59 ± 0.03
Compton edge	477 keV	5720 ± 4
Escape peak	183 keV	2510 ± 12

^{137}Cs sample (measurement time 2.7h)
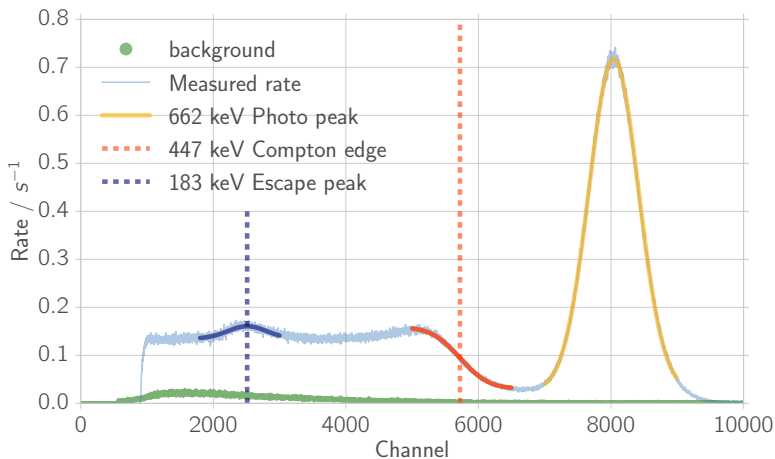
Peaks and fitting results of ^{22}Na

Name	Energy	Channel
1. Photo peak	511 keV	6347 ± 3
2. Photo peak	1277 keV	14180 ± 20
1. Compton edge	341 keV	4000 ± 2000
2. Compton edge	1064 keV	12000 ± 4000

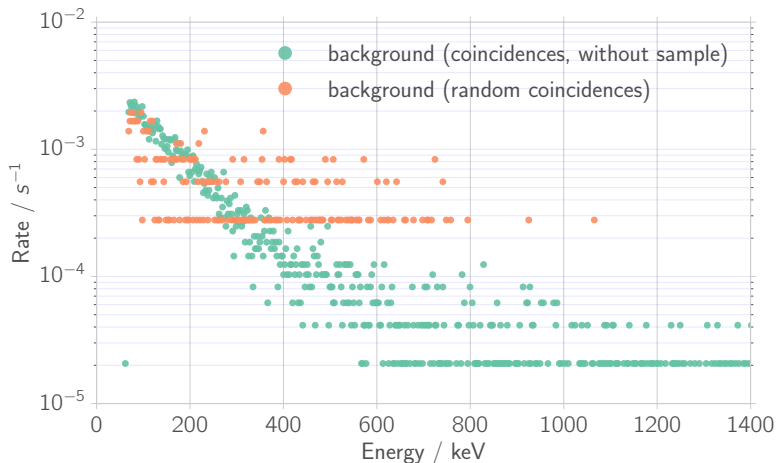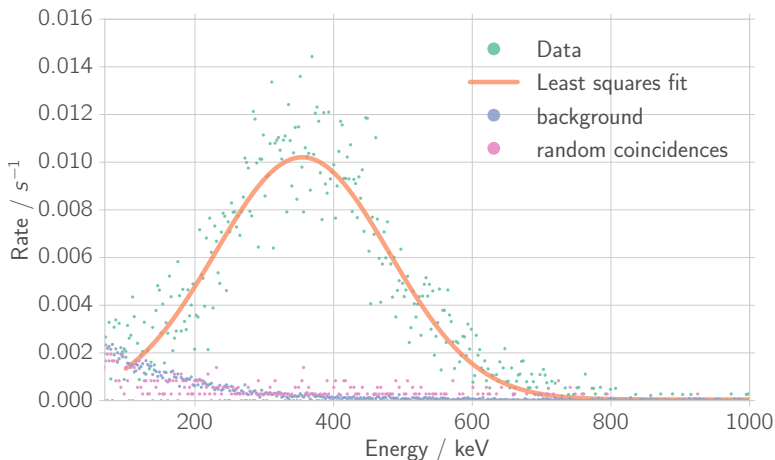# ^{22}Na sample (measurement time about 1h)
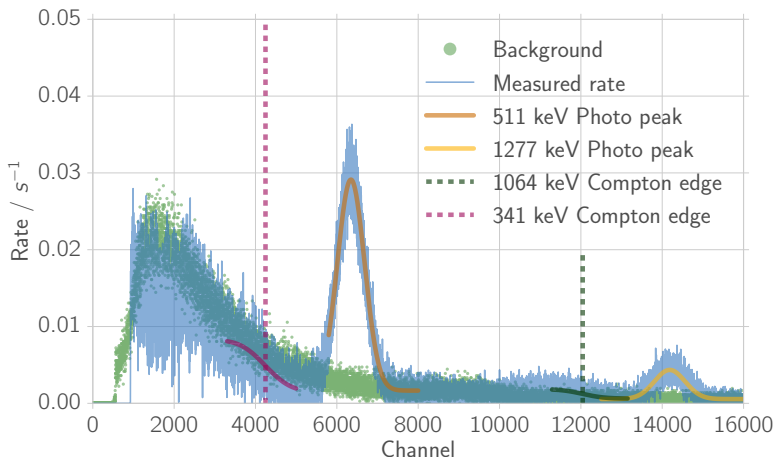
Linear fit
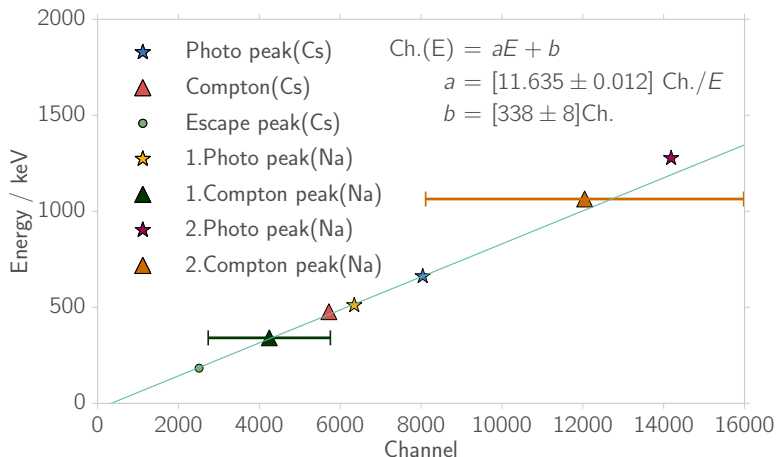
Energy Conversation

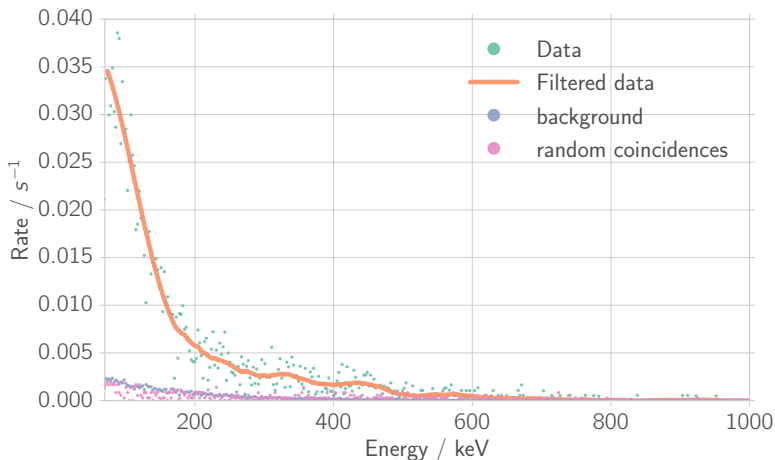- ▶ Comparison of peak energies for different angles

Background of the PS scintillator with coincidence and random coincidences (measurem. time 13.4h and 1h)
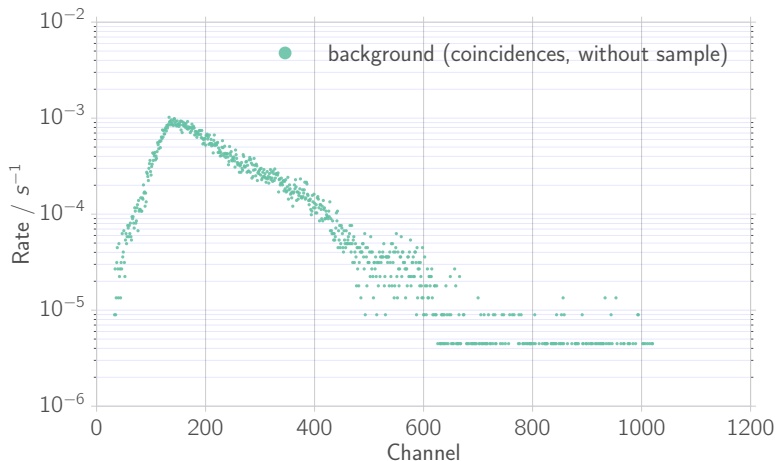
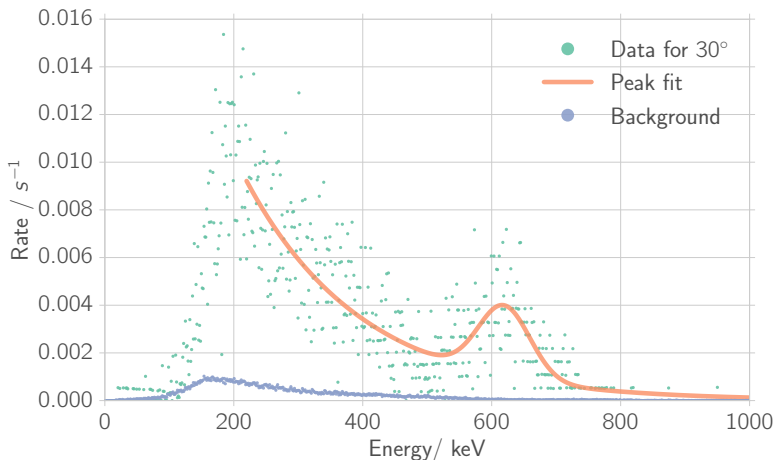# Energy of electrons: Rate of coincident events of PS scintillator at angle of $\theta = 90°$

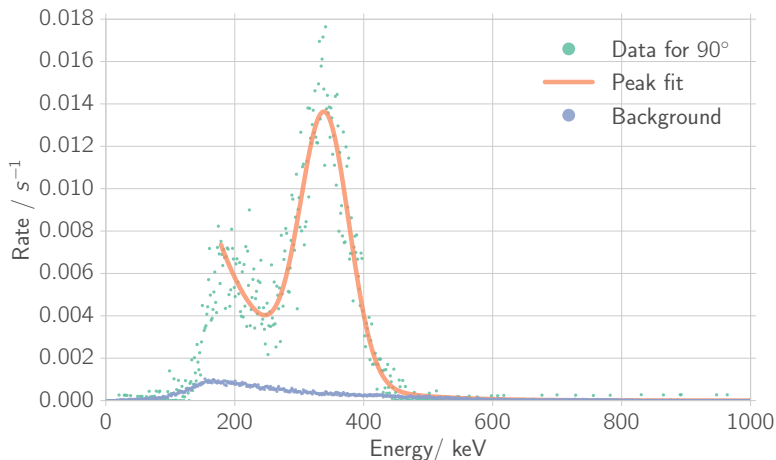# Energy of electrons: Rate of coincident events of PS scintillator at angle of $\theta = 15°$

Background of NaI scintillator with coincidences (measurem. time 62h)

Energy of photons: Rate of coincident events of NaI scintillator at angle $\theta = 30°$

Energy of photons: Rate of coincident events of NaI scintillator at angle $\theta = 90°$

Now to the result: combining all those peaks...