

# Compton and His Scattering

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April 23, 2015

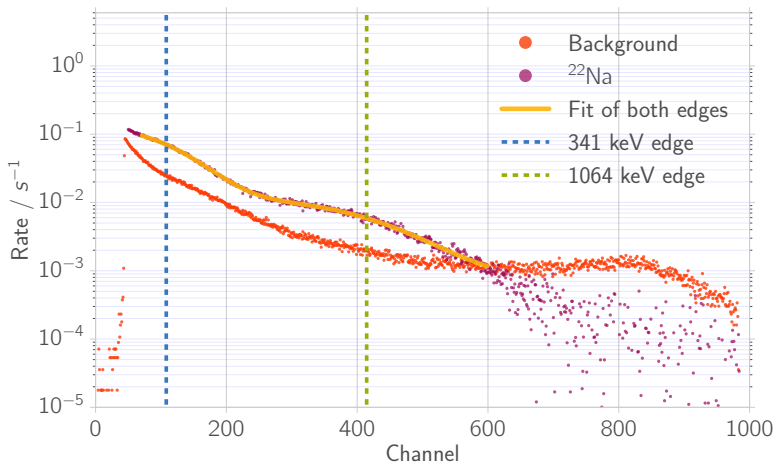
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Calibration of PS scintillator

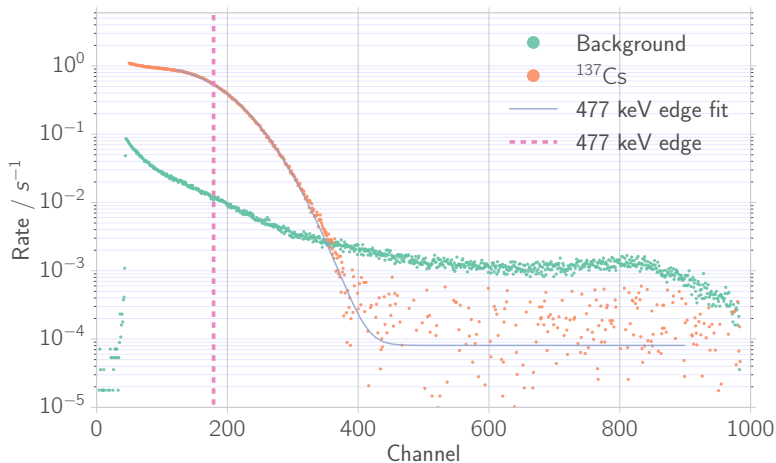
Calibration of Na scintillator

Energy Conservation

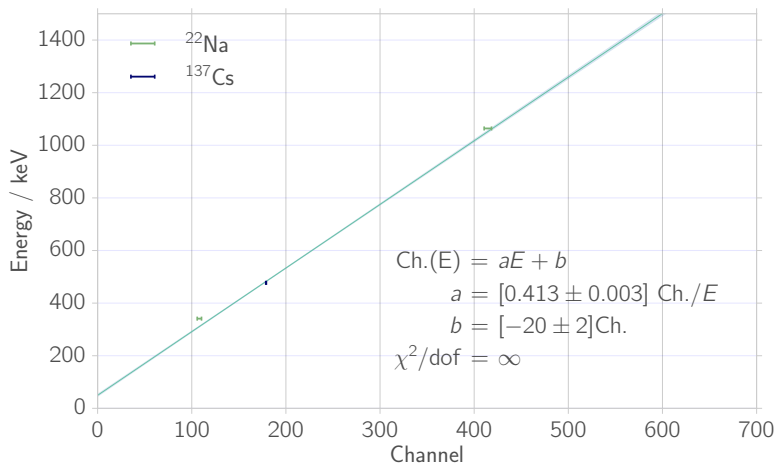
# $^{22}\text{Na}$ sample (measurement time 16.5h)



# $^{137}\text{Cs}$ sample (measurement time 6h)



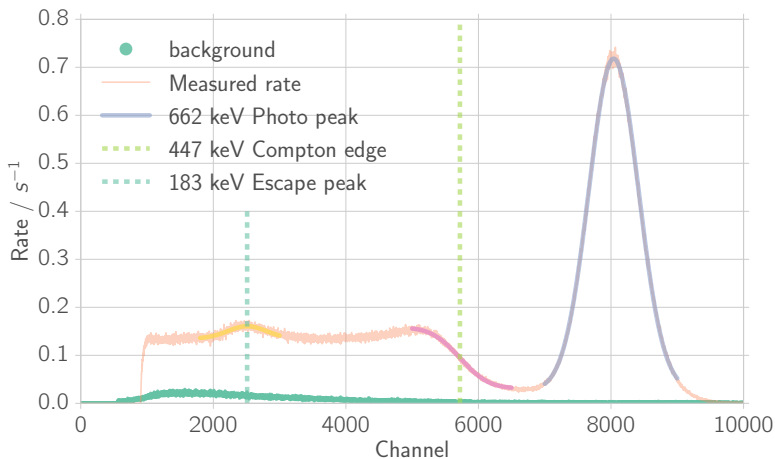
# Linear fit



## Peaks and fitting results of $^{137}\text{Cs}$

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

# $^{137}\text{Cs}$ sample (measurement time 2.7h)

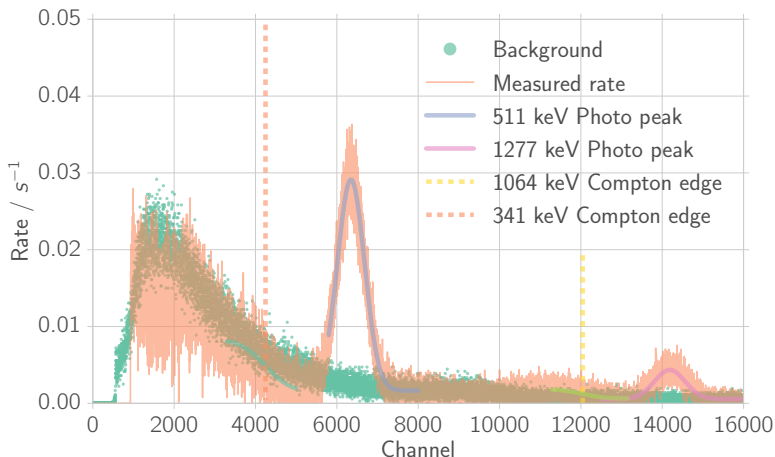


# Peaks and fitting results of $^{22}\text{Na}$

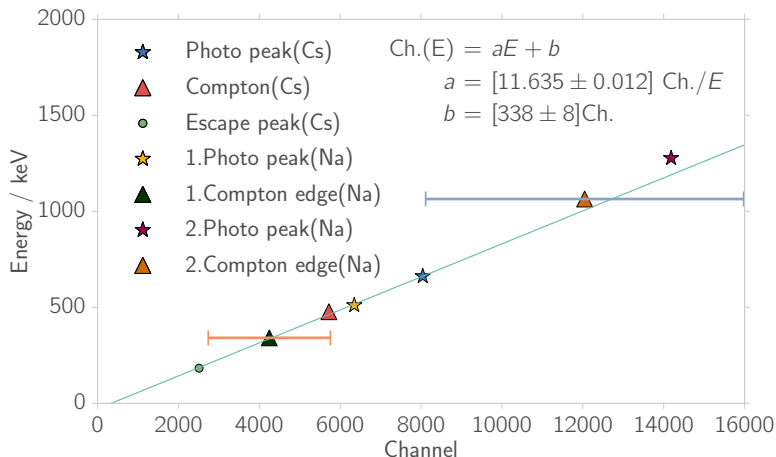
Name	Energy	Channel
1. Photo peak	511 keV	$6347 \pm 3$
2. Photo peak	1277 keV	$14180 \pm 20$
1. Compton edge	341 keV	$4000 \pm 2000$
2. Compton edge	1064 keV	$12000 \pm 4000$



## $^{22}\text{Na}$ sample (measurement time about 1h)



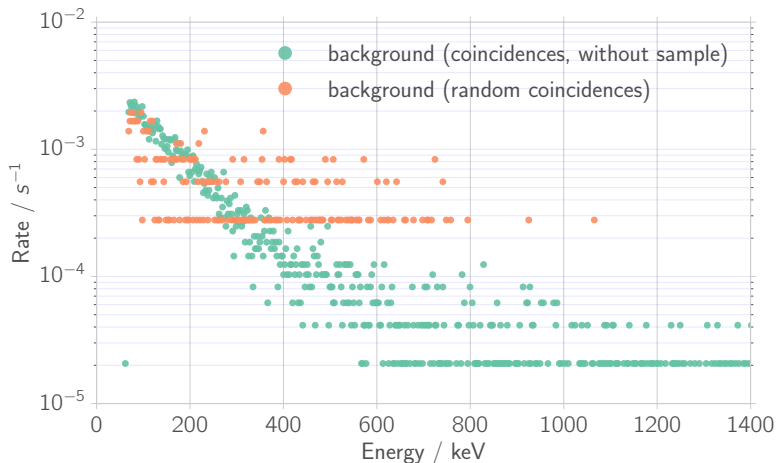
# Linear fit



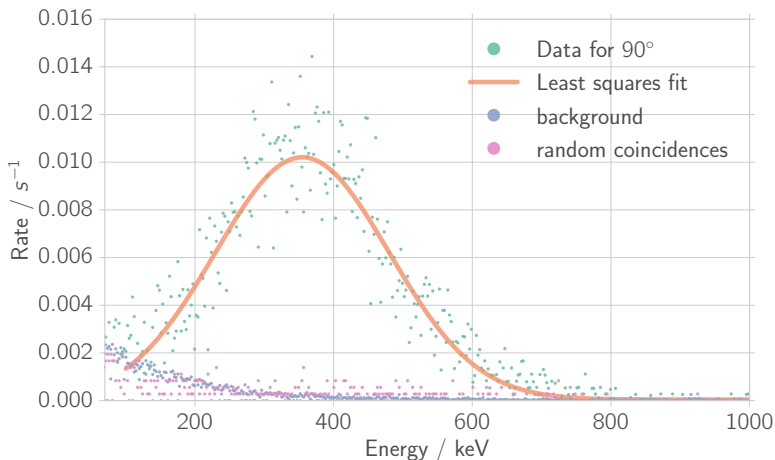
# Energy Conversation

- Comparison of peak energies for different angles

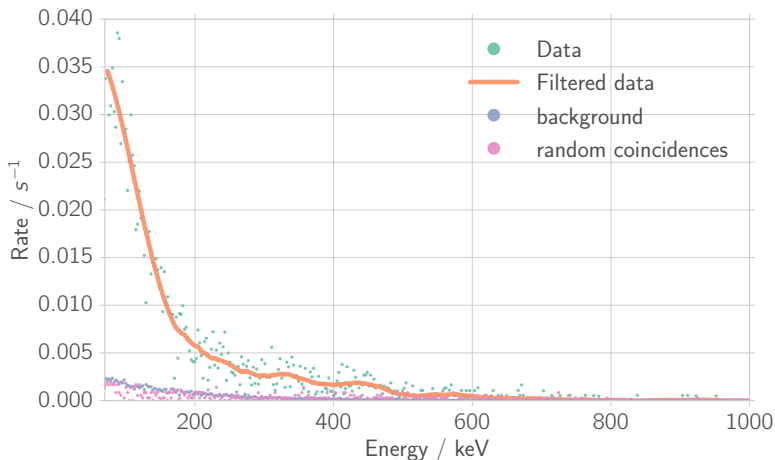
# Background of the PS scintillator with coincidence and random coincidences (measur. time 13.4h and 1h)



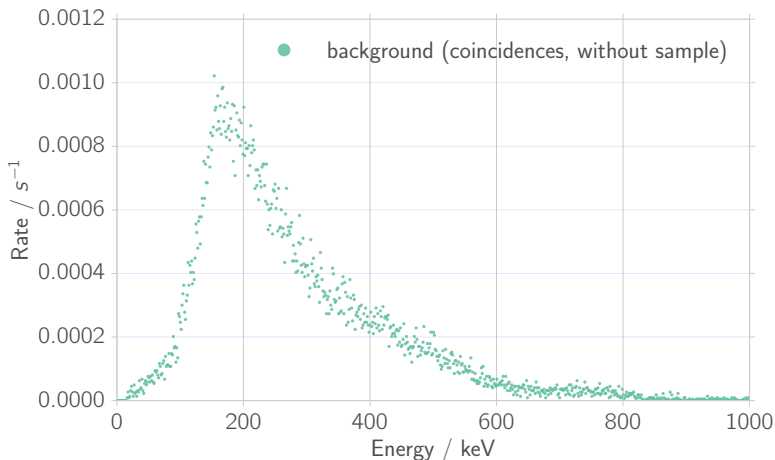
Energy of electrons: Rate of coincident events of PS scintillator at angle of  $\theta = 90^\circ$



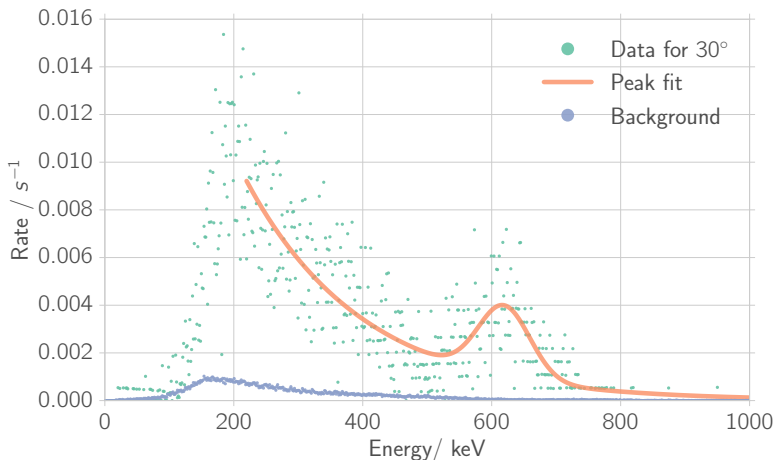
Energy of electrons: Rate of coincident events of PS scintillator at angle of  $\theta = 15^\circ$



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

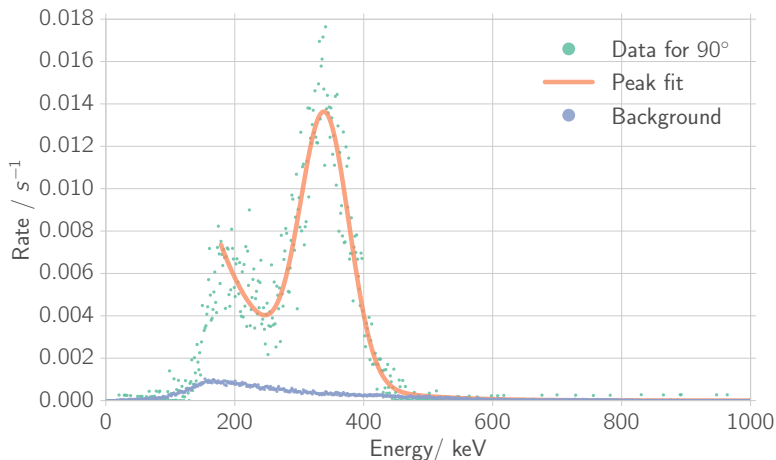


Energy of photons: Rate of coincident events of NaI scintillator at angle  $\theta = 30^\circ$





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



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