# Status report (22 Feb. 2017)

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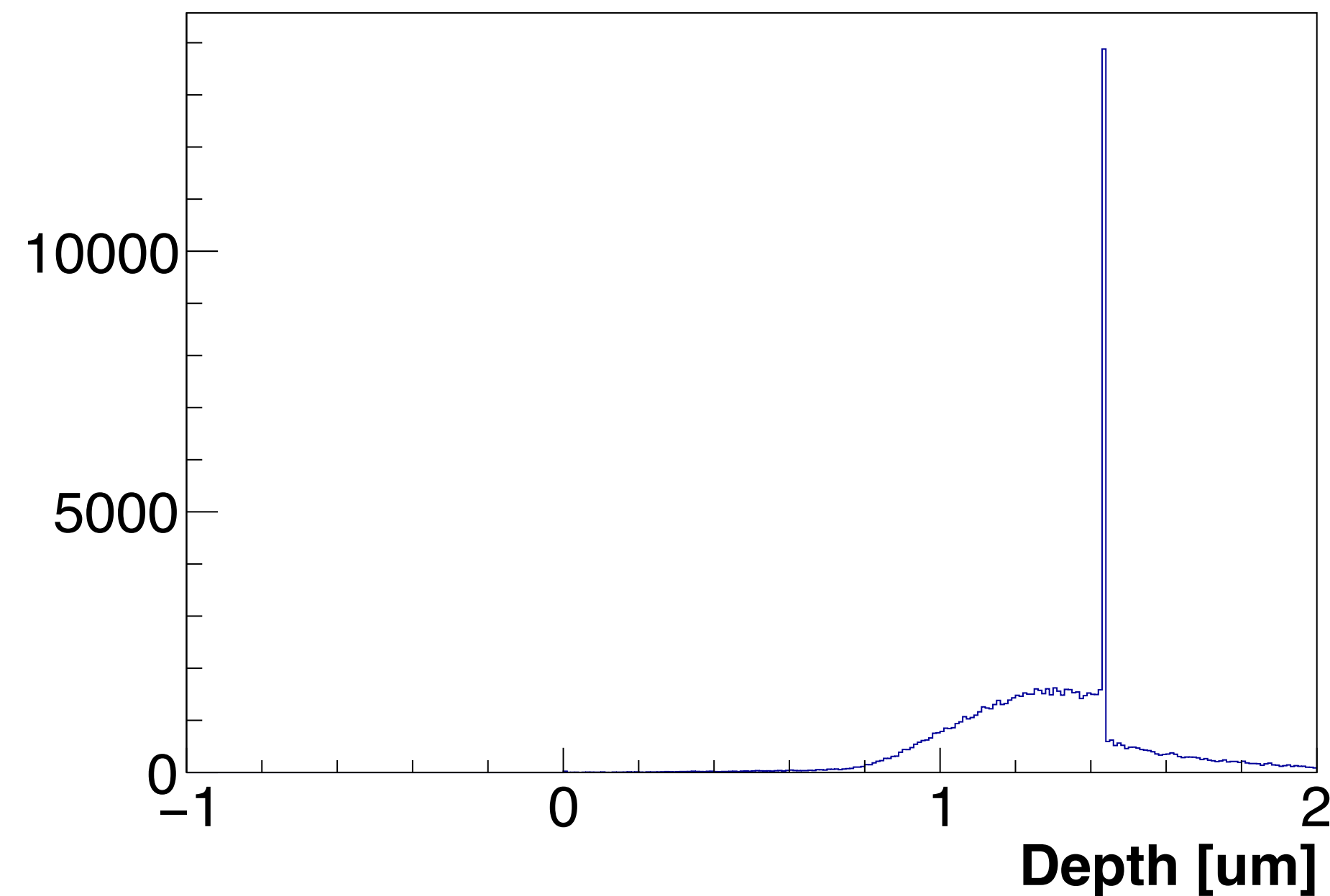
# Simulation: dope

- Issue

1. Triton depth distribution: Au (distributed) / Cu (sharp peak)

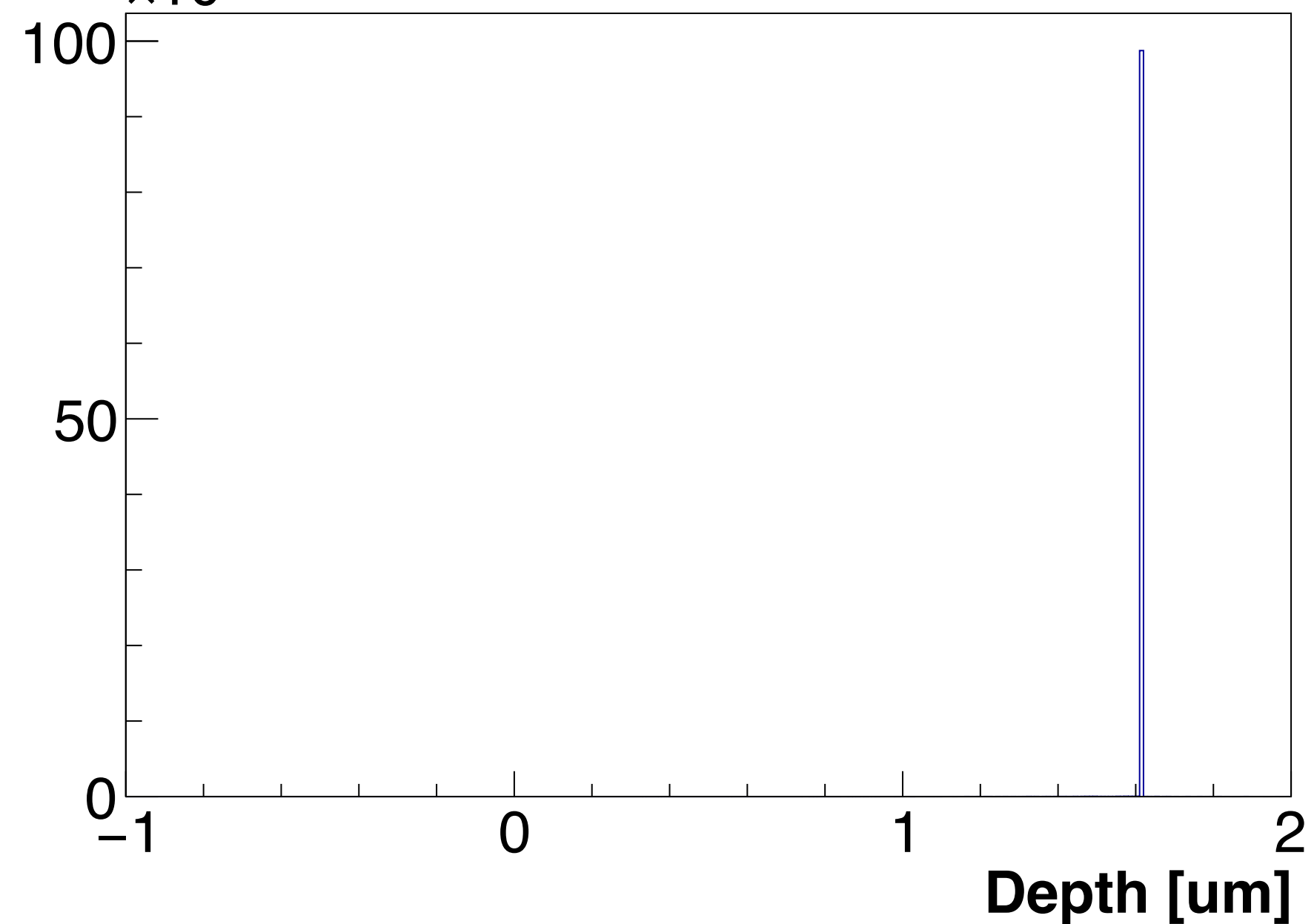2. Electron depth distribution: Beam from outside / inside

# Triton depth distribution

- Cu: Only 'ionization' process for energy loss
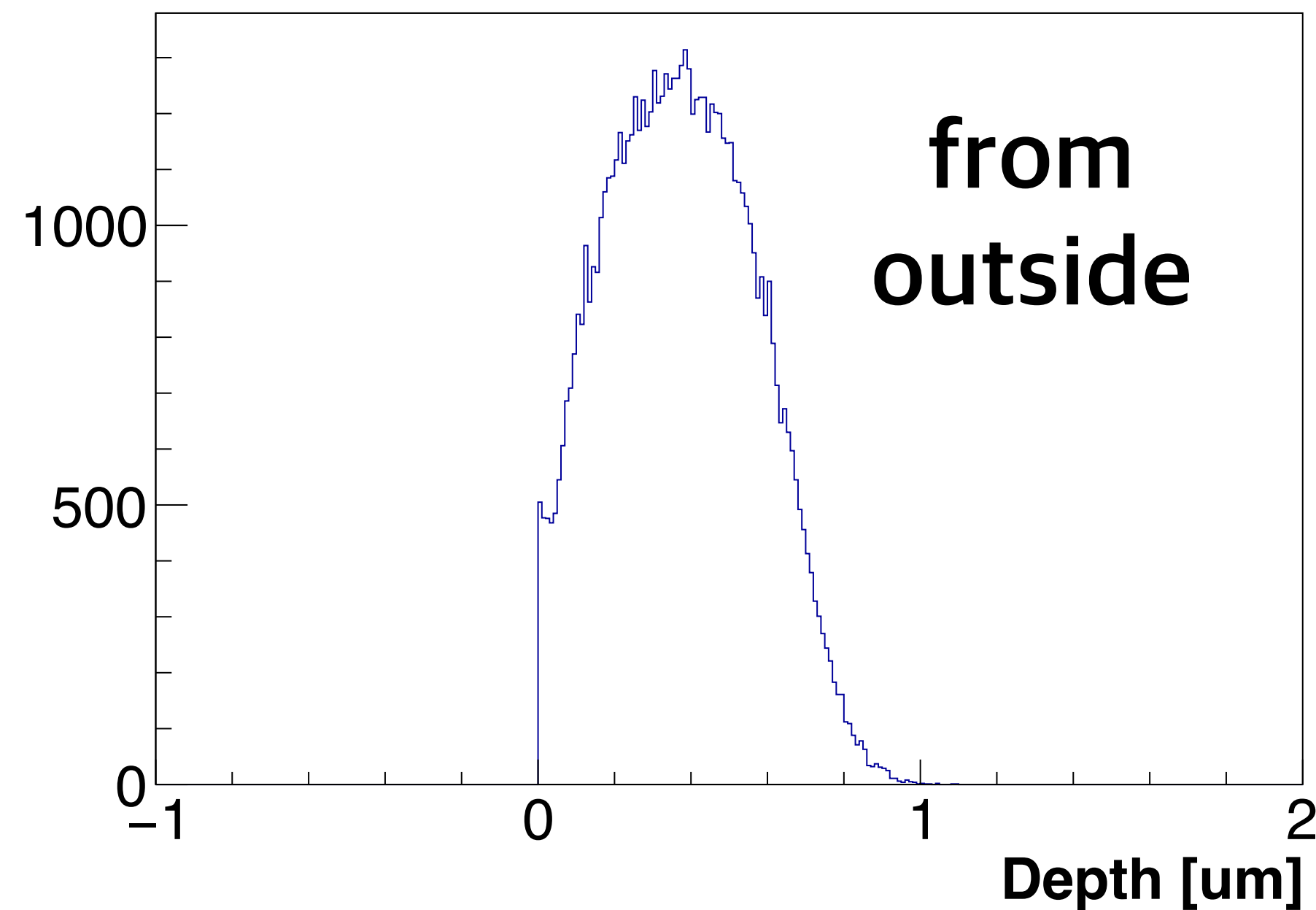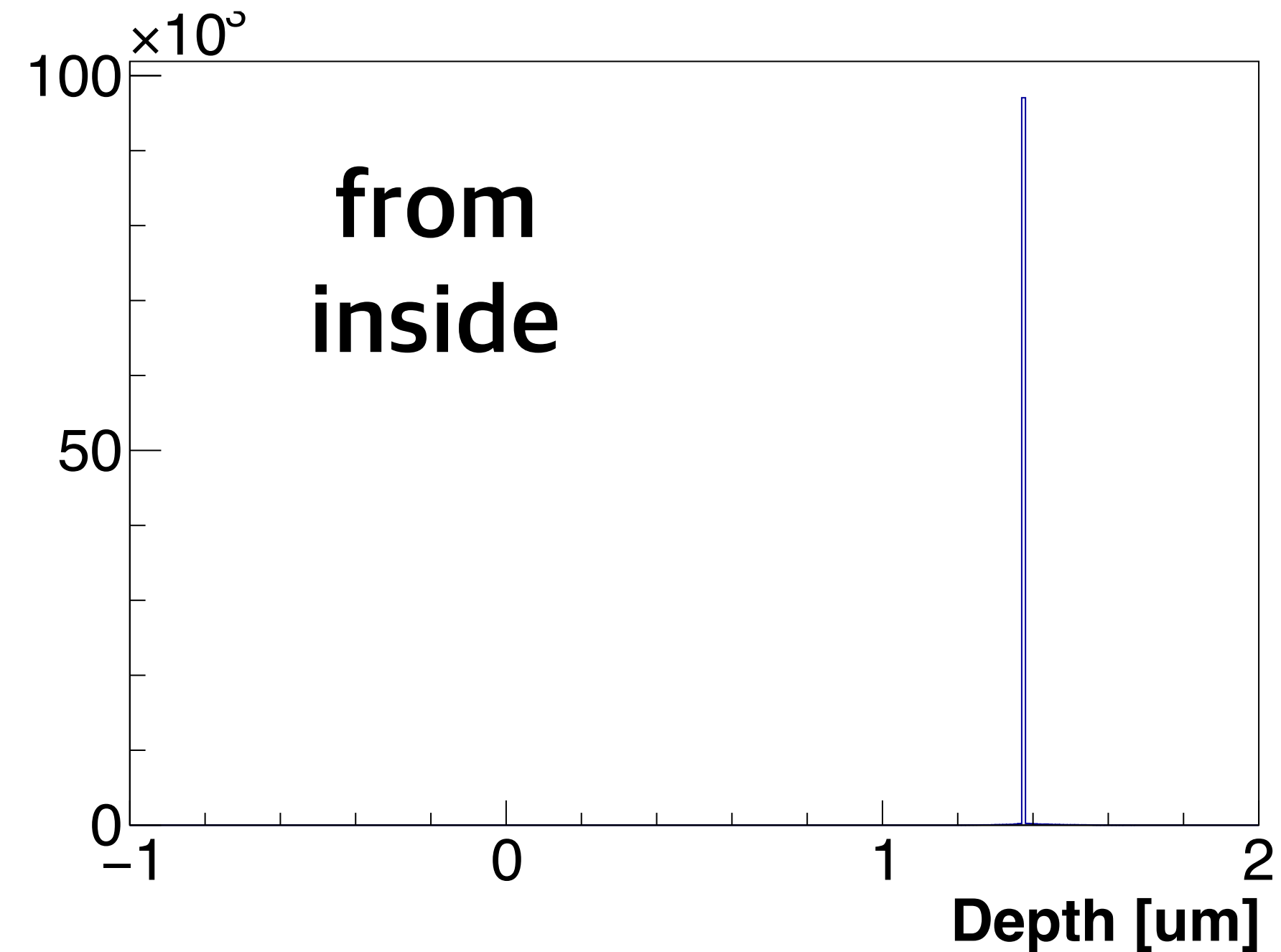
- Au: '**multiple scattering**' involved

# Electron depth distribution

- Inside: Only 'ionization' process for energy loss

- Outside: '**multiple scattering**' involved



**electron_Cu**

from
outside

Depth [um]

**electron2_Cu**

$\times10^3$

from
inside

Depth [um]

# Simulation: GBAR

- Top/Bottom problem: **(Top accuracy) > (Bottom accuracy)**

  - (annihilation) + (background) = (total selected)

  - Due to the difference of the number of **annihilation trigger: (Top annihilation) > (Bottom annihiliation)**

  - Similar background triggers

  - Portion of annihilation trigger in total is larger in Top case.

# Simulation: Case Study After Rejection

- Which particles cause the trigger?

- Triggers selected by rejection

- $V_{th}$ = 0.3 MeV

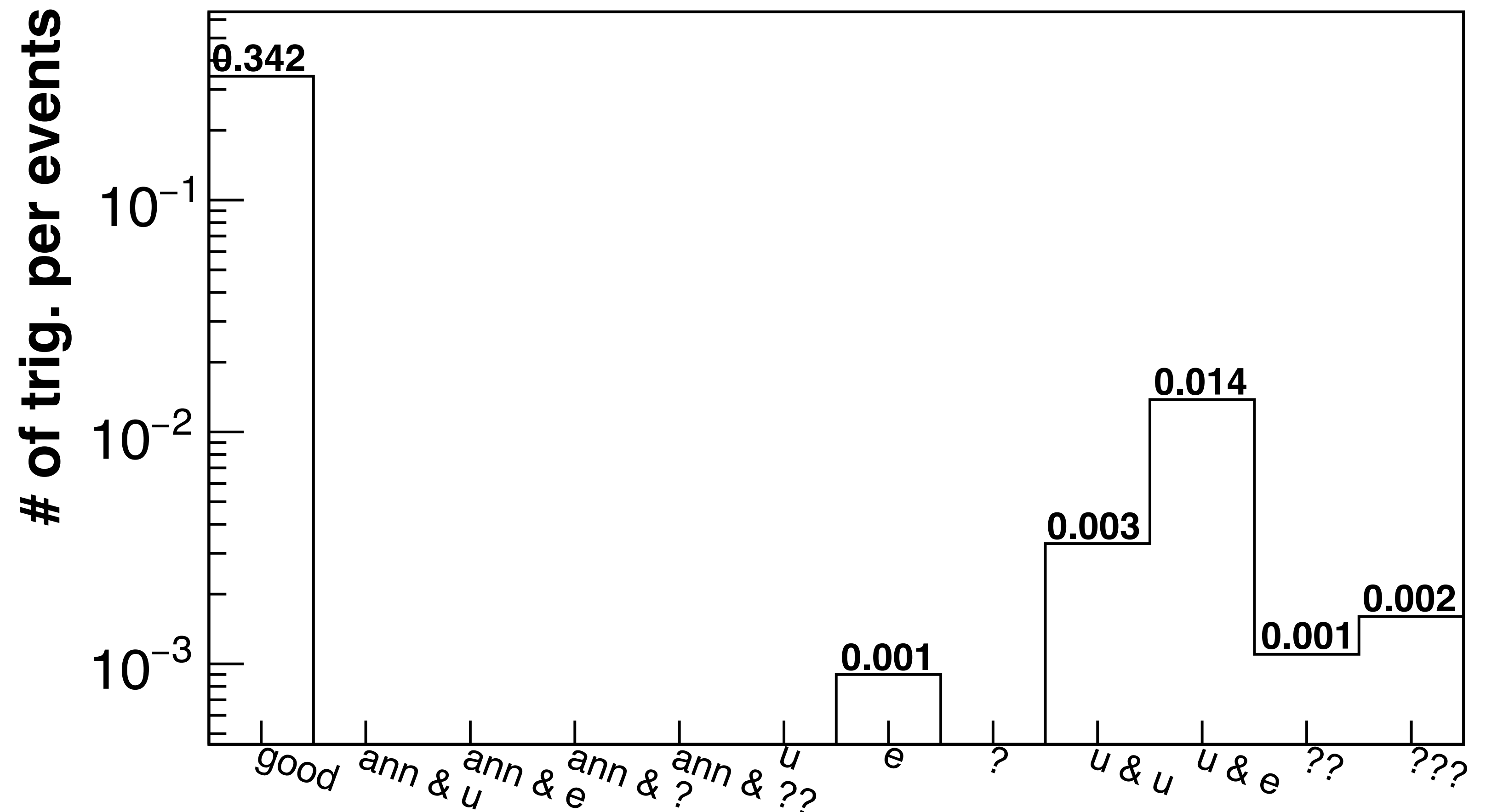- 825-mm Top detector / Top annihilation

**Sort of Trig. After Ref. (825/Top)**
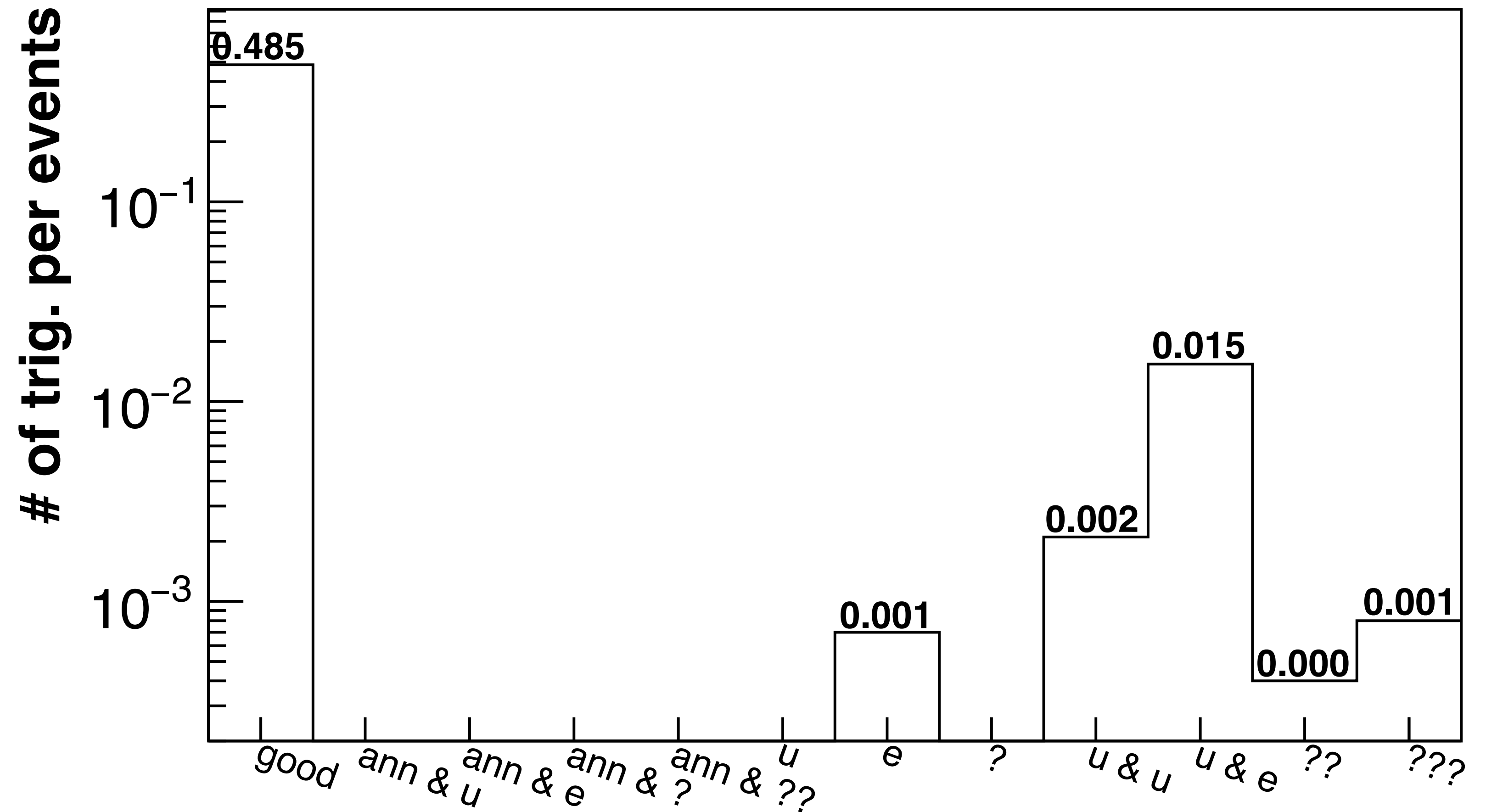
# Simulation: Case Study After Rejection

- Which particles cause the trigger?

- Triggers selected by rejection

- $V_{th}$ = 0.3 MeV

- 825-mm Top detector / Bottom annihilation

**Sort of Trig. After Ref. (825/Bot)**

# Simulation: GBAR

- Increasing the number of events

  - Memory leak problem: the program halts with the large number of events.