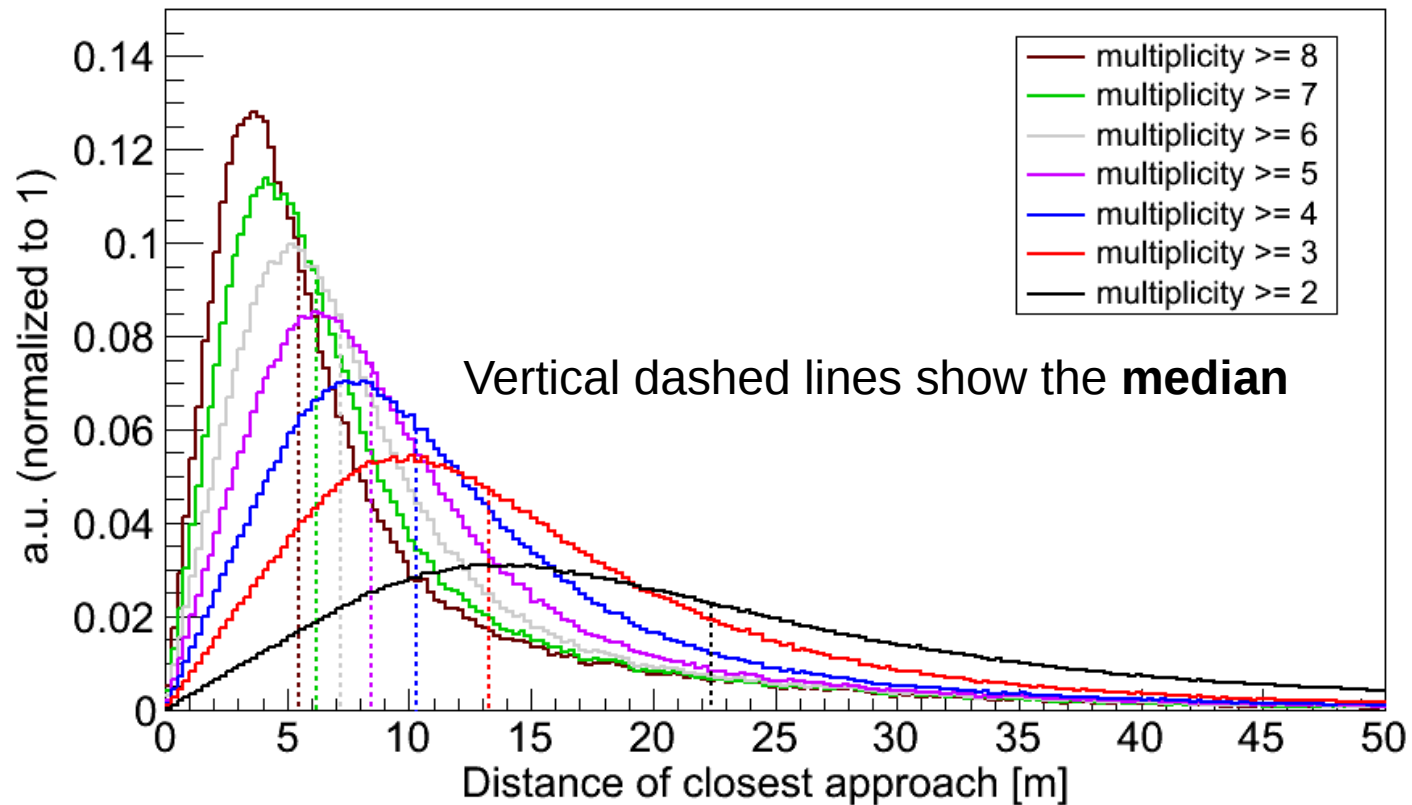# Muon rate depth dependence
What are we seeing?
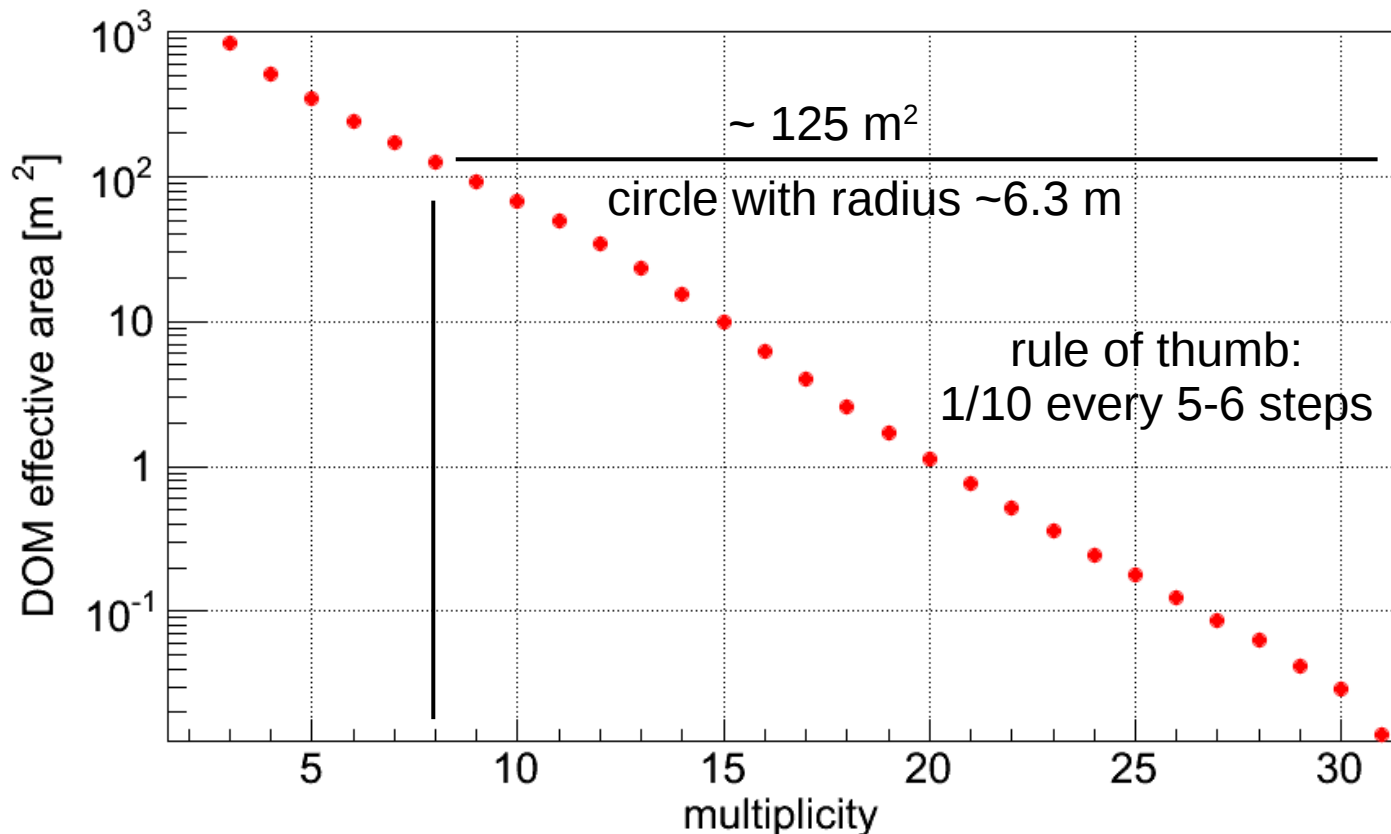
Karel Melis & Martijn Jongen

2/12/2016

Distance to DOM

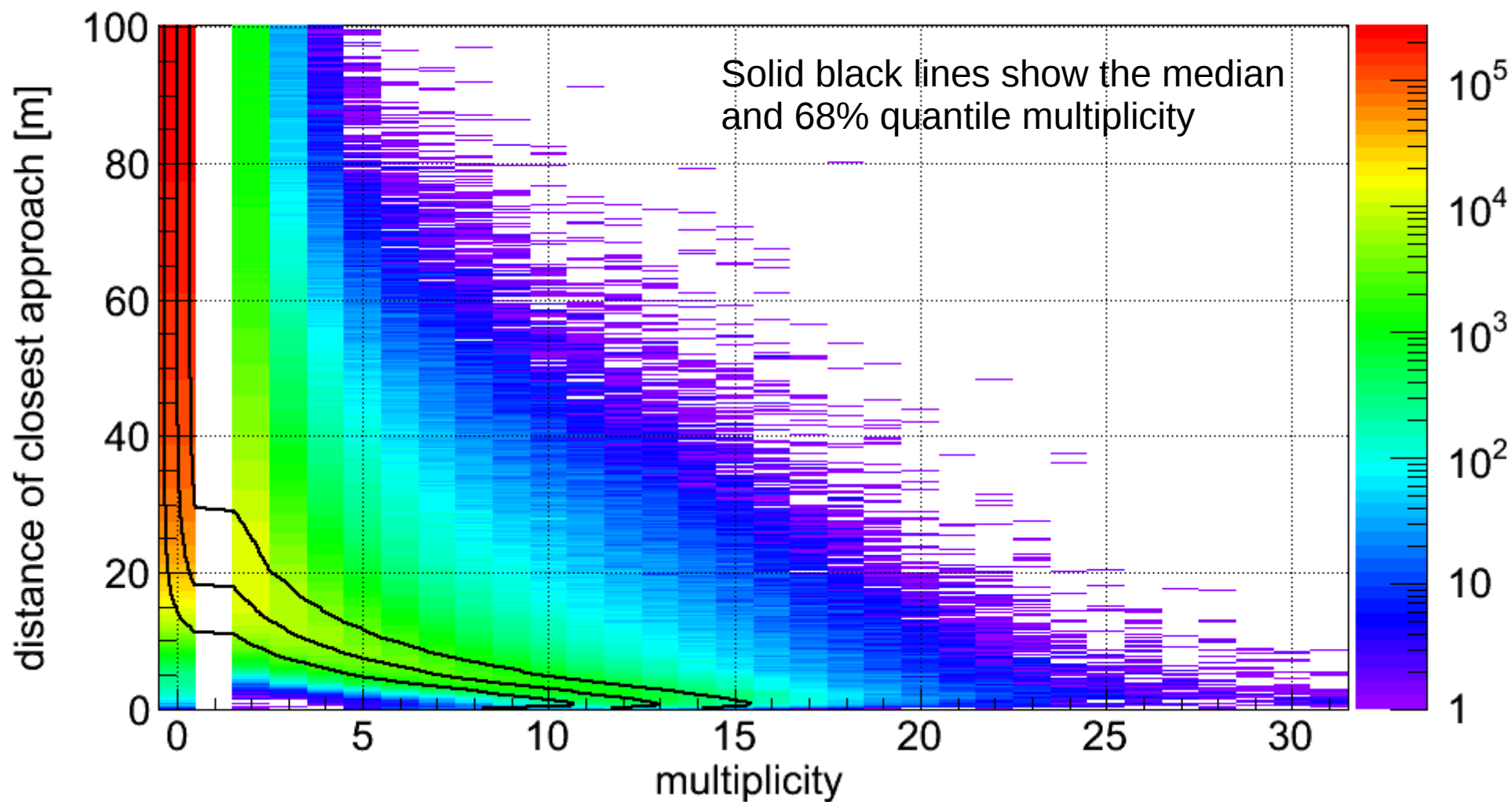Single muon events

"DOM effective area"
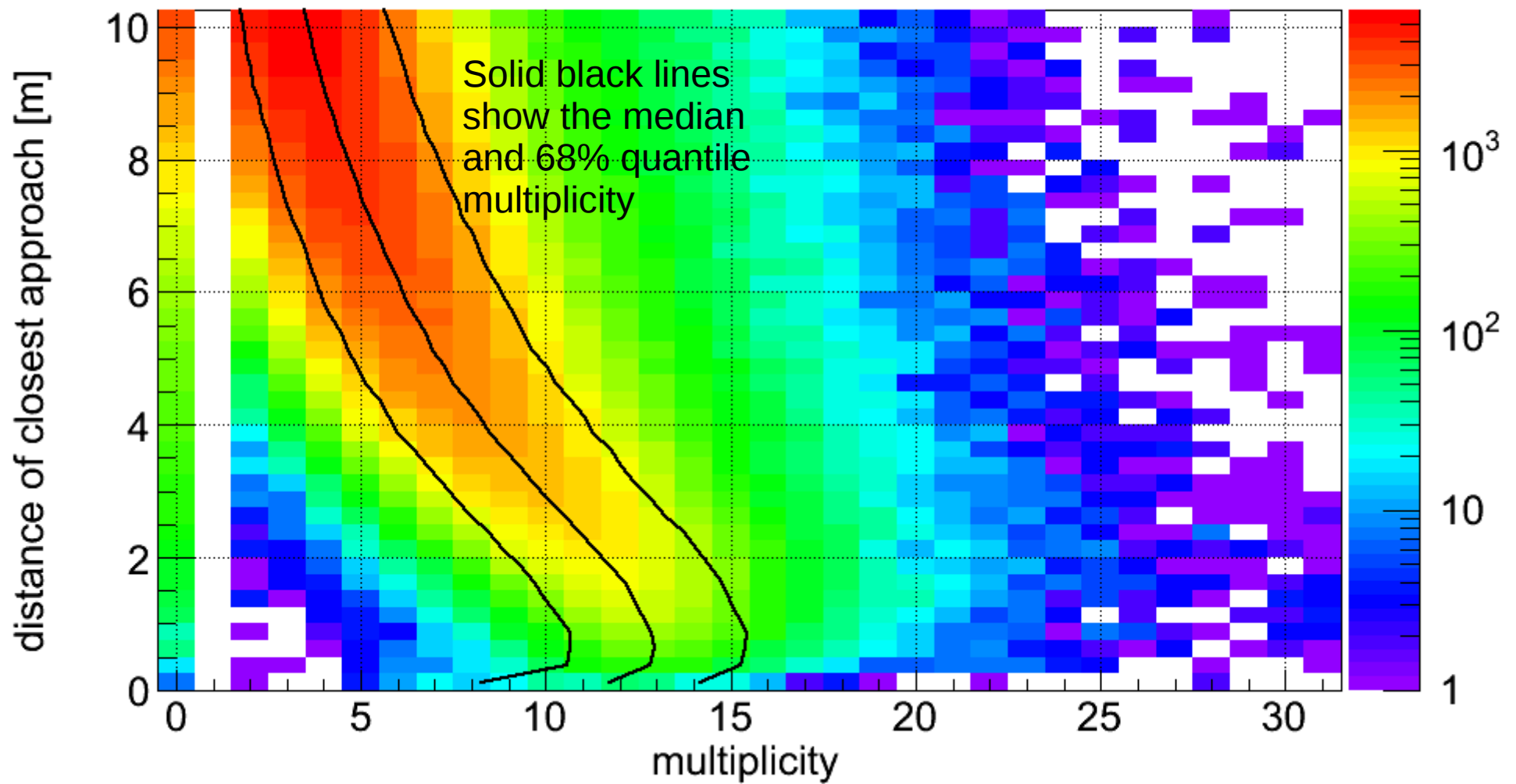

definition: Σ Nsel / Nall x ΔA

- using only MC events with a single muon
- all = muon tracks with expected E>0 at the DOM
- sel = tracks that cause an m-fold (or higher) coincidence on the DOM
- ΔA = area in one d.c.a. bin = π x (dca_{max}^2-dca_{min}^2)

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One entry per active DOM per single-muon MC event

Solid black lines show the median and 68% quantile multiplicity

One entry per active DOM per single-muon MC event

Solid black lines show the median and 68% quantile multiplicity

Muon energy
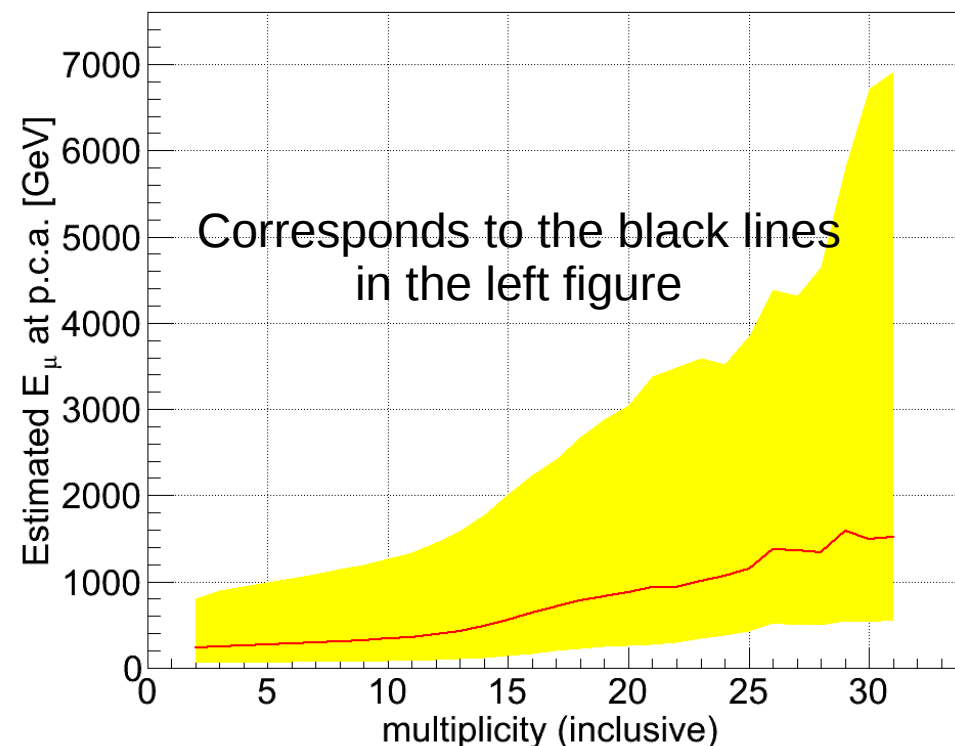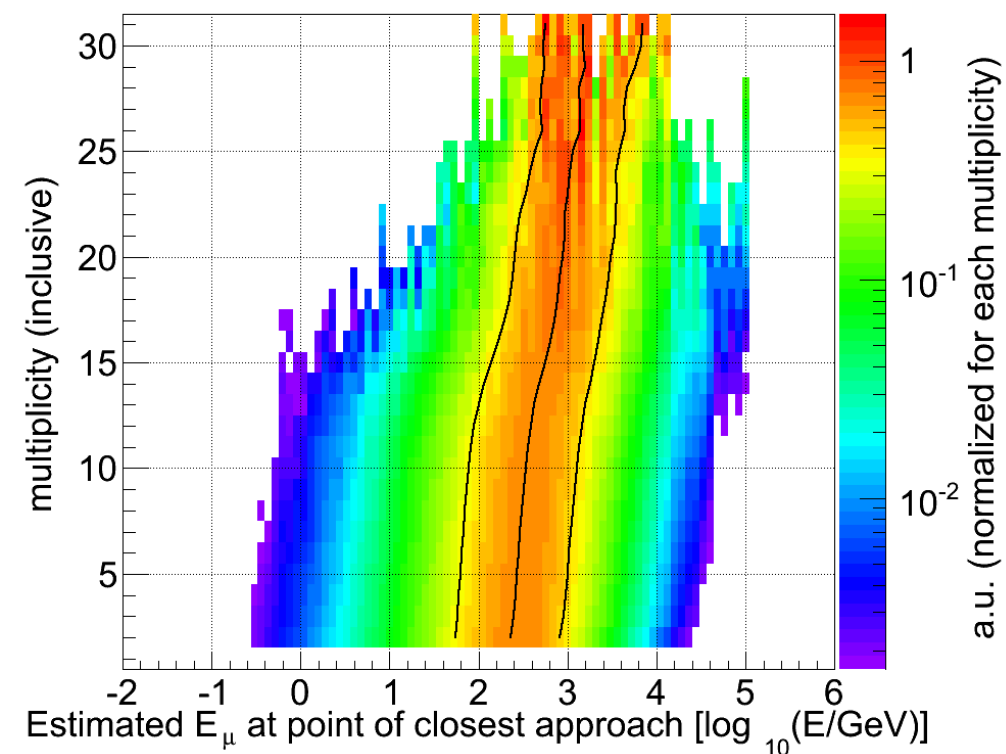
- Low multiplicities: ~200-400 GeV
- Very high multiplicities: mostly >1,000 GeV

Time over threshold