

# Kostya statreport (deuterons)

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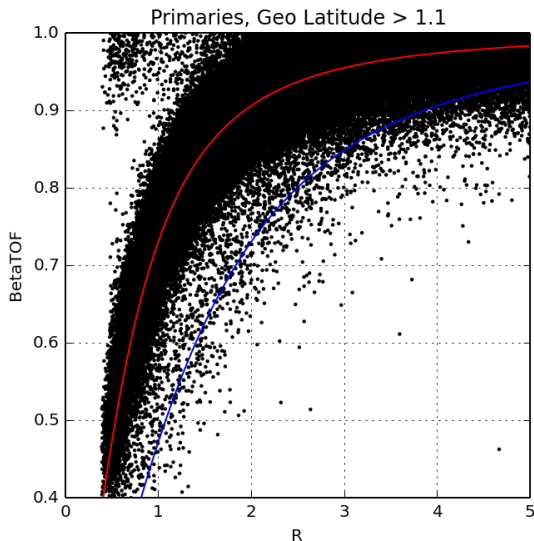
Università degli Studi di Trento  
Facoltà di Scienze Matematiche Fisiche e Naturali

April 28, 2015

# Changes to deuteron analysis

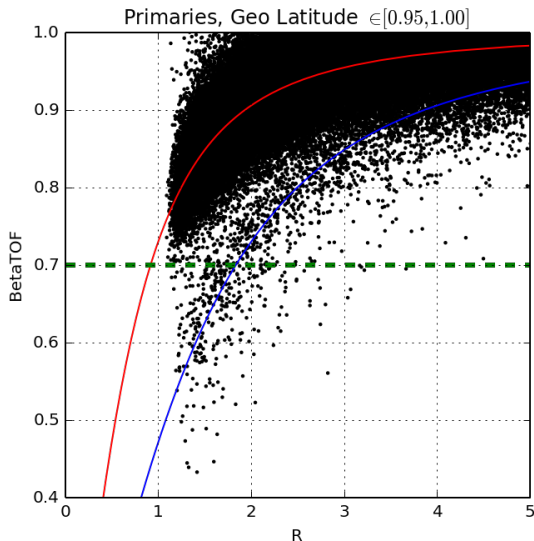
- Using  $\beta$  instead of  $R$  bins.
- Less reliance on MC (especially for complex events).
  - ⇒ We need  $D$  sample purely from data.
  - ⇒ For a while – lay off the Quality Likelihood and BDT
- We should use RICH better
  - ▶ Our RICH acceptance looks too low
  - ▶ The gap in acceptance is unacceptable
- We need to validate the deuteron MC
  - ⇒ Again  $D$  sample purely from data.

## Idea about getting $D$ sample



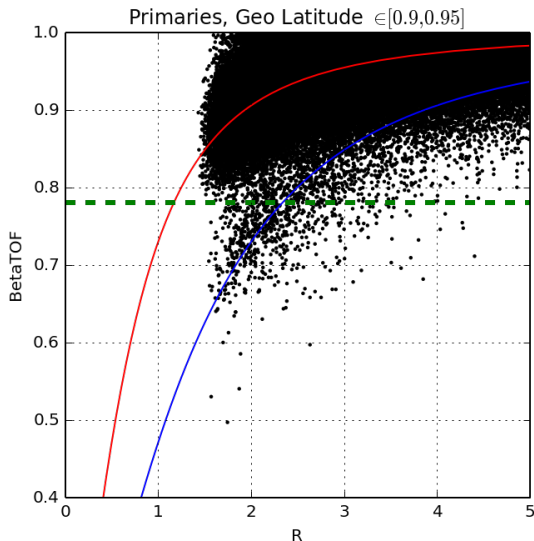
- Using  $R_{cutoff}$  for isotopic separation
- Francesco has more
- Need detailed study of
  - ▶  $R_{cutoff}$  calculation
  - ▶  $BetaTOF$  smearing

## Idea about getting $D$ sample



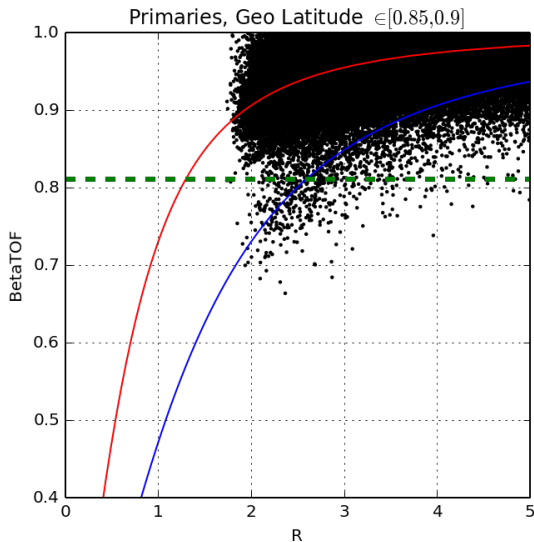
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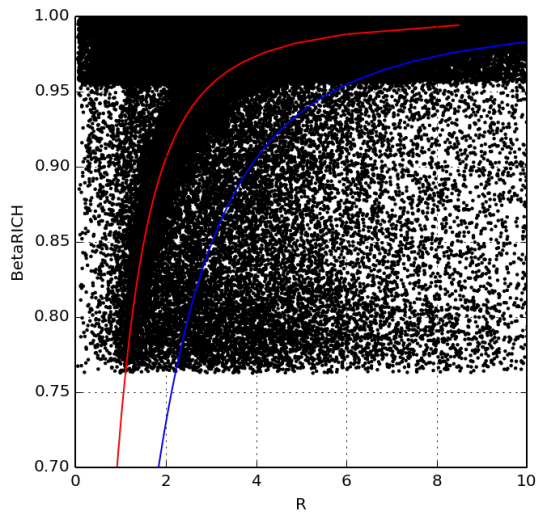
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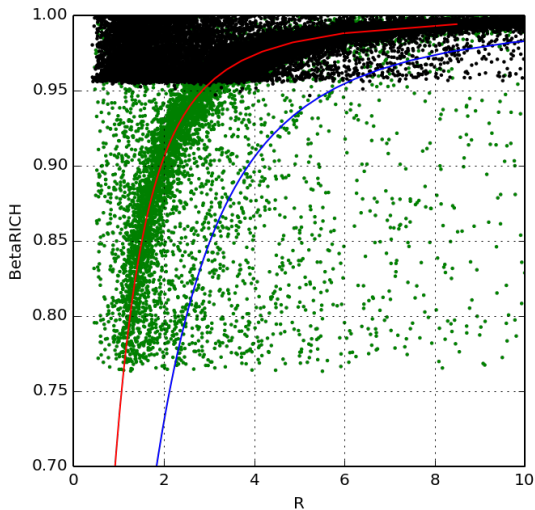


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# RICH

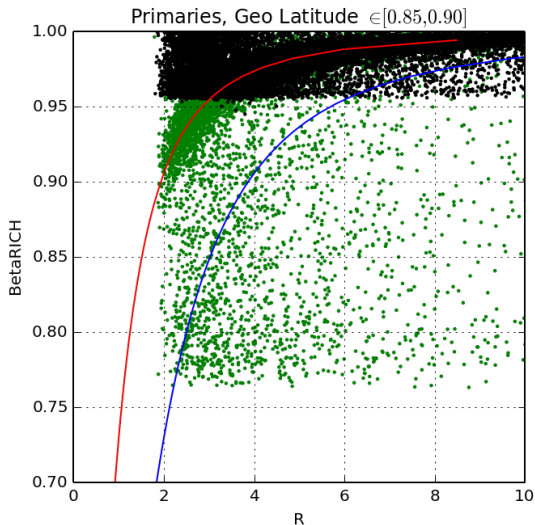


# RICH

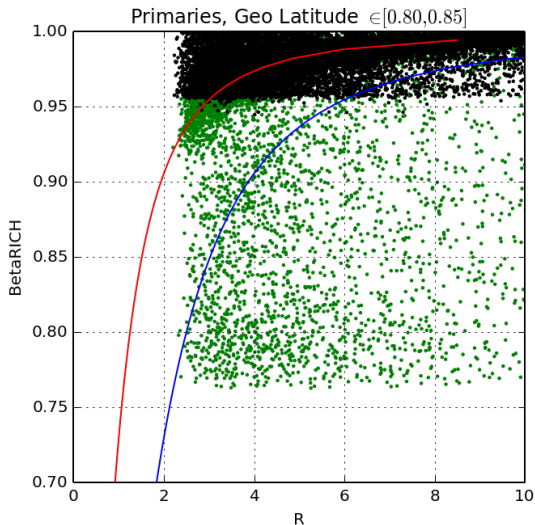


- NaF (green) covers the “acceptance hole”
  - ▶ There still will be a jump in Acc.
  - ▶ But it will cancel in the  $p/D$

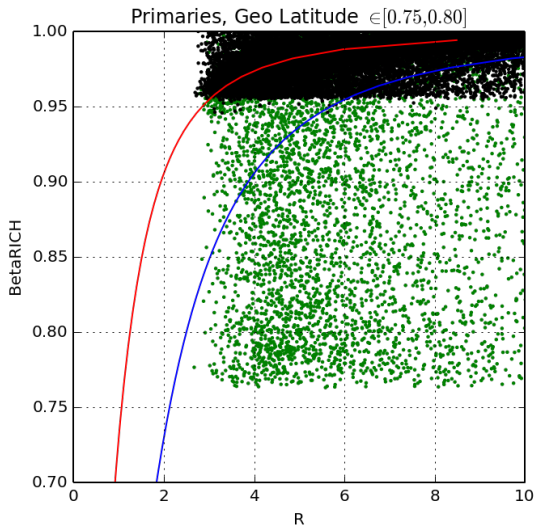




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  - ▶ But it will cancel in the  $p/D$
- What are these?

# Organizational questions

- Everyone working on the analysis – put Run and Event numbers in your NTuples
- Shifts?
- Madrid meeting next week?