Entia non sunt multiplicanda praeter necessitatem
aka $B \rightarrow K^* \mu^- \mu^+$

Marcin Chrząszcz
mchrzasz@cern.ch

University of
Zurich[UZH]
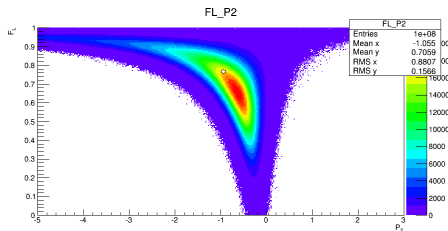
Zurich meeting, CERN
September 24, 2014

Many paths...

- Jacobian transformation
- Profile likelihoods
- Quantiles

Entia non sunt multiplicanda praeter necessitatem - $B \rightarrow K^* \mu^- \mu^+$
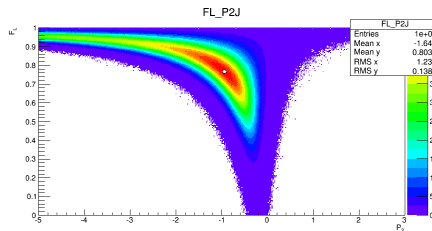
Jacobian transformation

- Now how does the new space look like.
- Important to take into account the boundary as without all my theorems fall down.
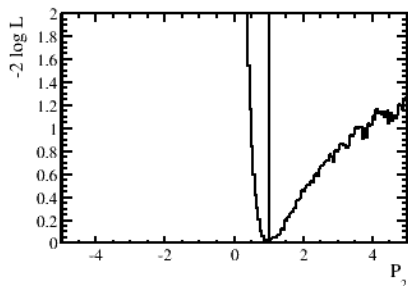- The white point is the value from which the toy was generated.
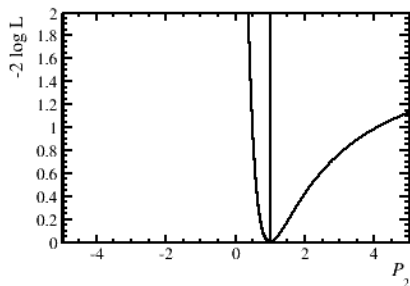
Scatter plot $F_L : P_2$, no Jacobian

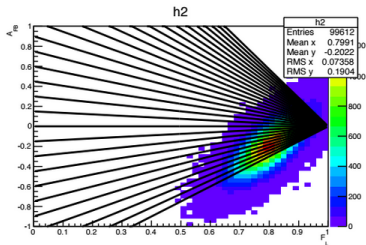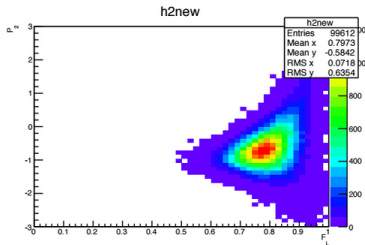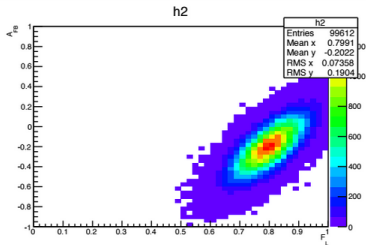Scatter plot $F_L : P_2$, with Jacobian

Re parametrization of pdf

- Re parametrization of the pdf gives exactly the same answer as toys taking into account the jacobian:

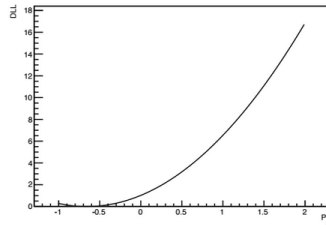Profile likelihood from re-parametrised pdf. Profile likelihood from toys with Jacobian
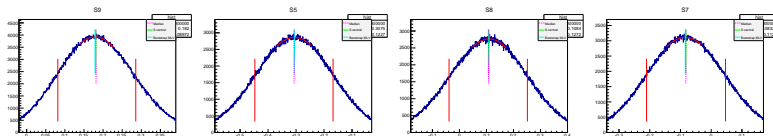
Profile likelihoods

Marcin Chrząszcz (Universität Zürich)   *Entia non sunt multiplicanda praeter necessitatem - $B \rightarrow K^* \mu^- \mu^+$*

- Apparently quantiles stay invariant under transformations....
- One can just calculate the 68% around the median.
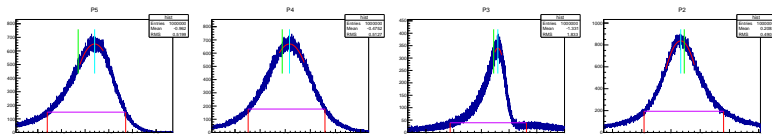- This is our default option :(

Quantiles

- Apparently quantiles stay invariant under transformations....
- One can just calculate the 68% around the median.
- This is our default option :(

The End?

- Tmr we have a meeting with the referees meeting.
- Ergo bibamus?