Fitter update

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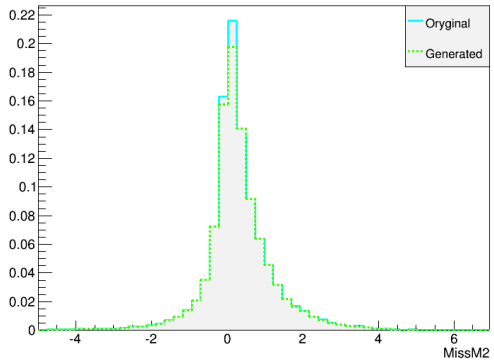
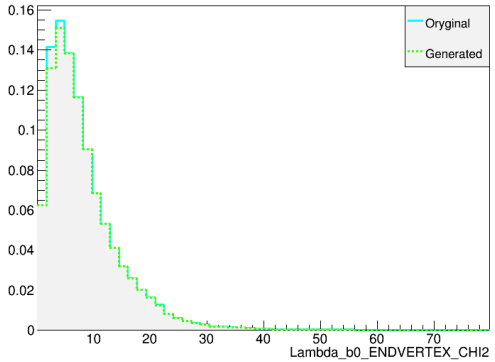
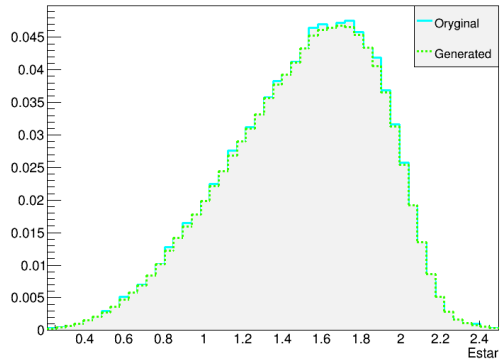
$R(\Lambda_c^*)$ meeting, CERN
July 4, 2016

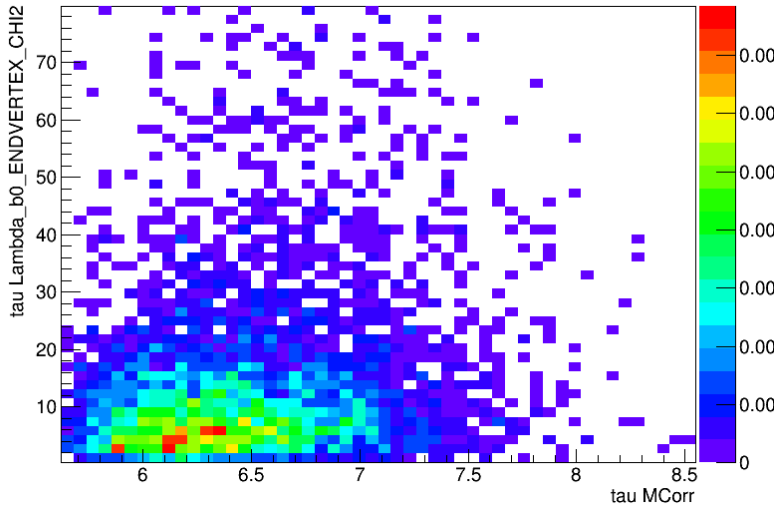
Reminder

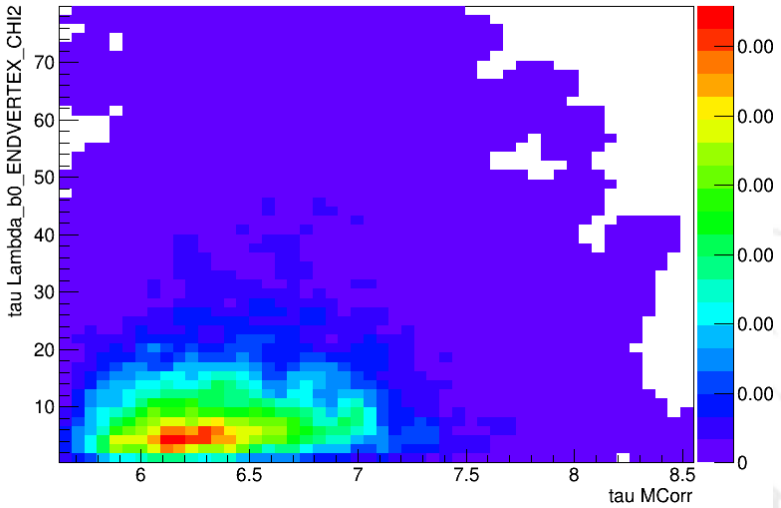
⇛ We use the Kernel Density to get the pdf to simulate $50\mathrm{M}$ events for each sample.











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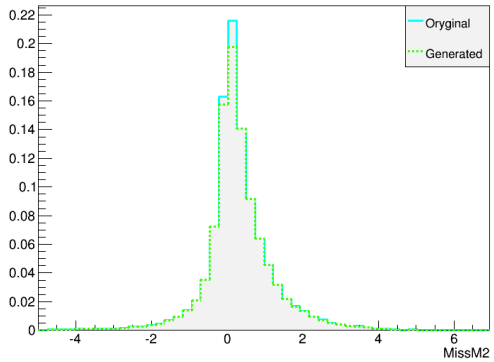
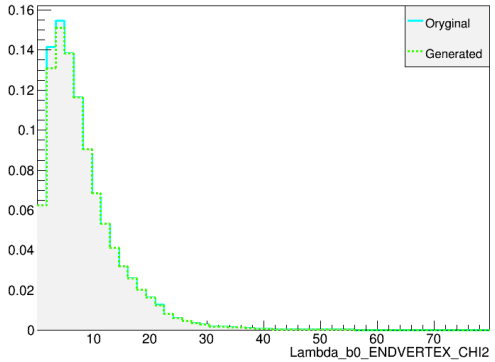
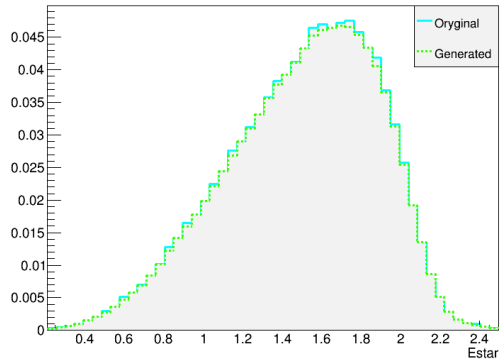
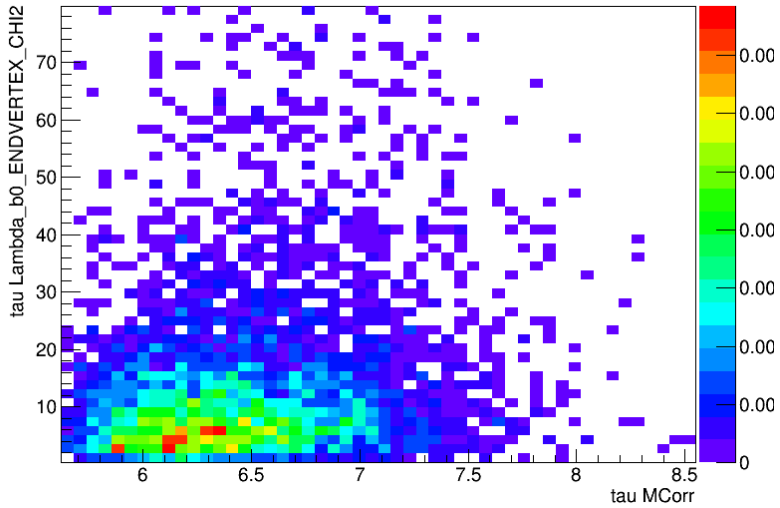
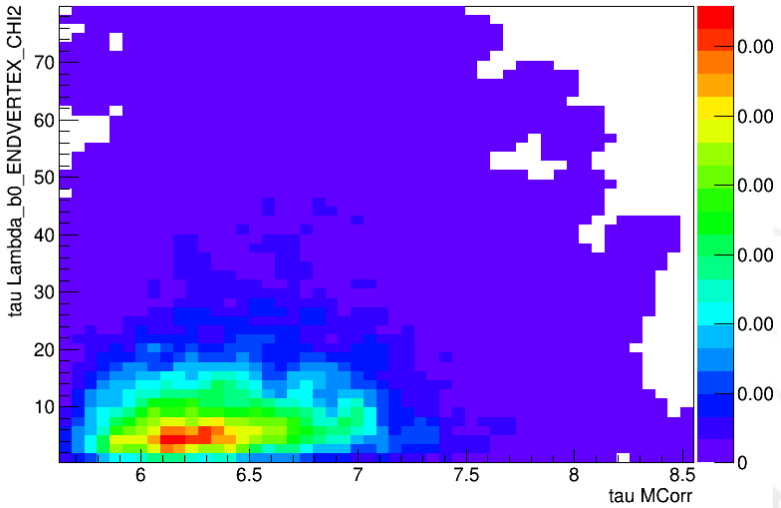








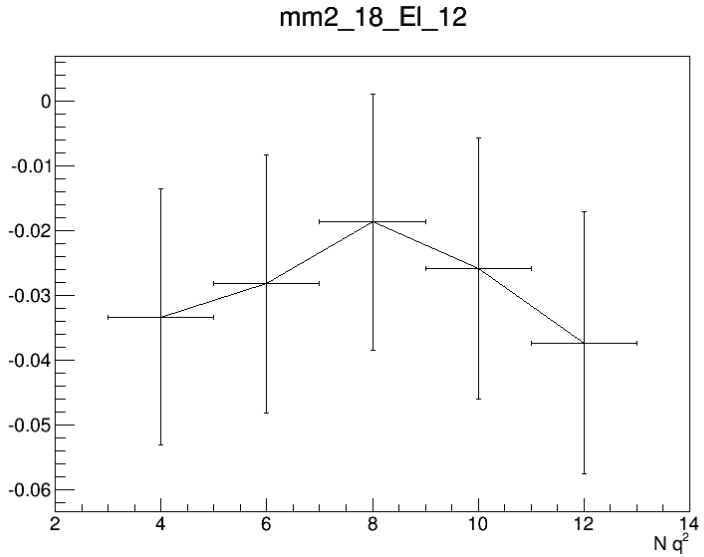


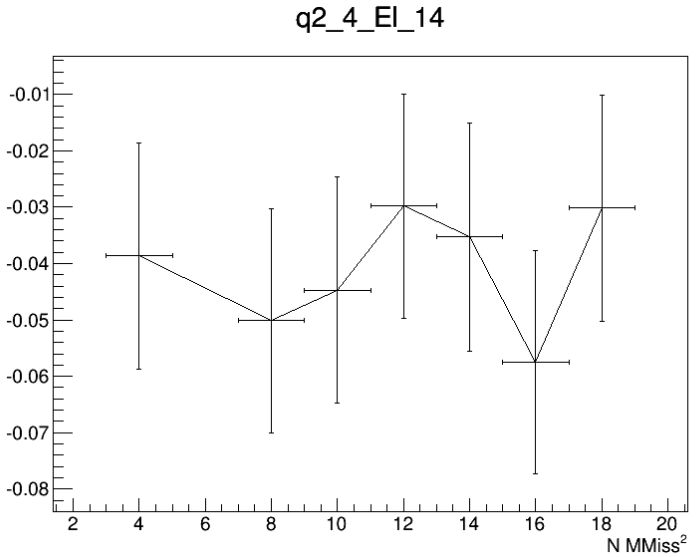
Initial parameters

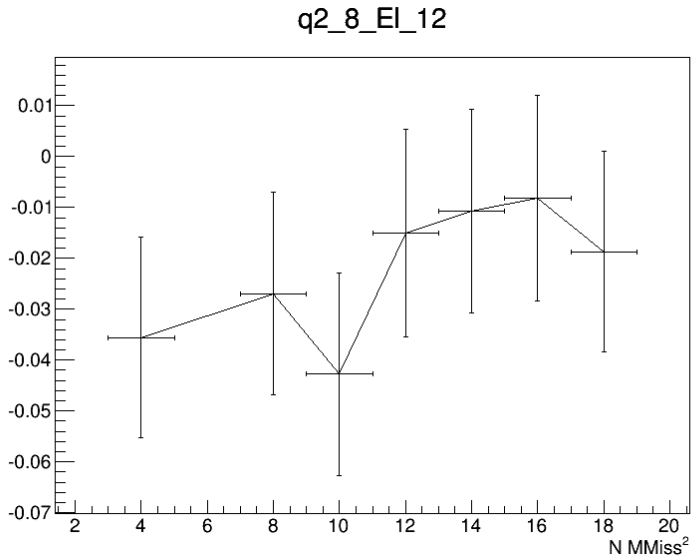
- Template size : 2000000 (for each μ and τ samples).
- Each toy: 20000 events in total.
- Tested couple of values of $\mathcal{R}(\Lambda_c^*) = 1,\ 0.(3)\ 0.25,\ 0.(21)$.
- Used 2500 toys for each scanned binning:

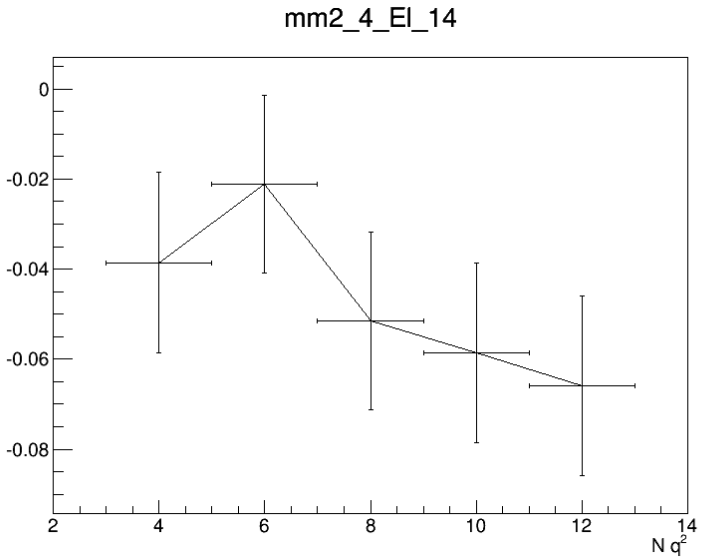
q^2	4 6 8 10 12 14
M^2_{miss}	4 8 10 12 14 16 18 20
E^2_ℓ	4 8 10 12 14 16 18 20

Results $R(\Lambda_c^*) = 0.25$

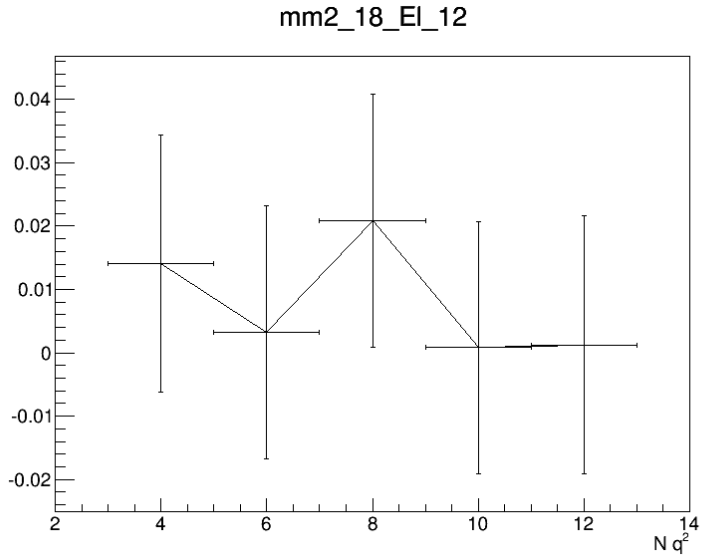


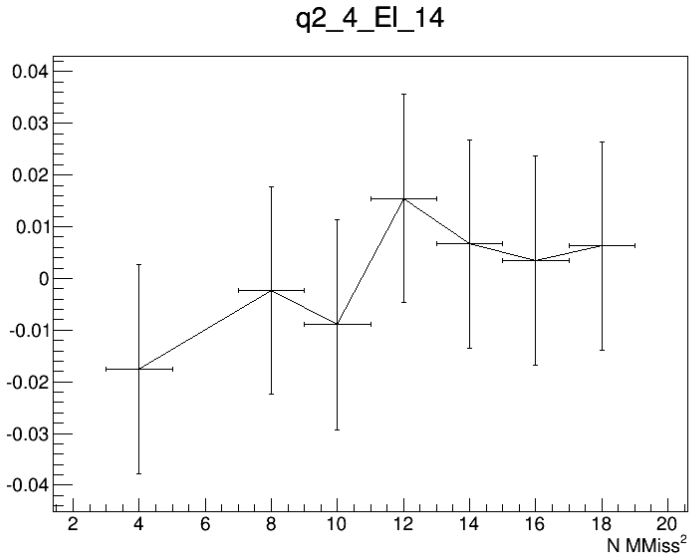


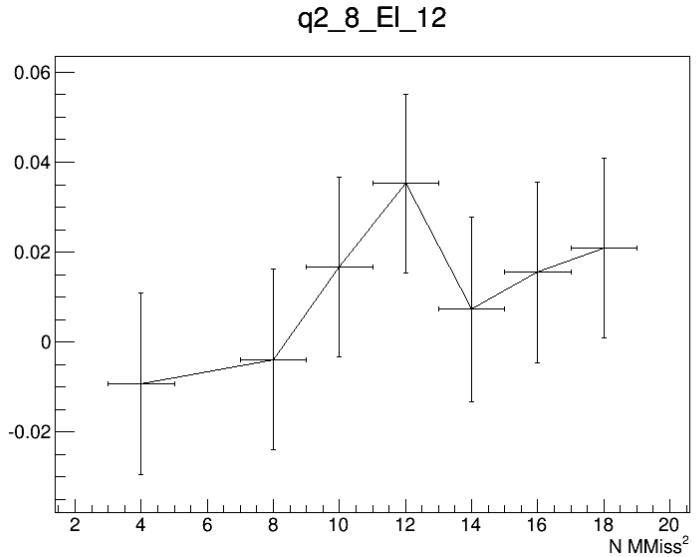


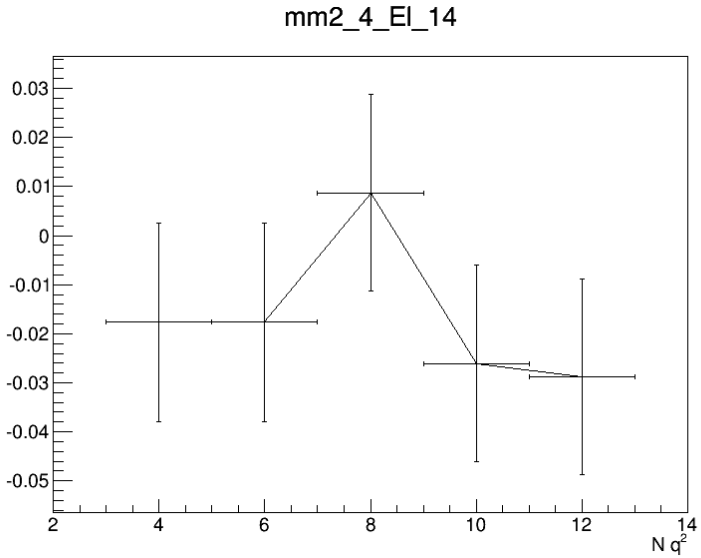


Results $R(\Lambda_c^*) = 1.0$

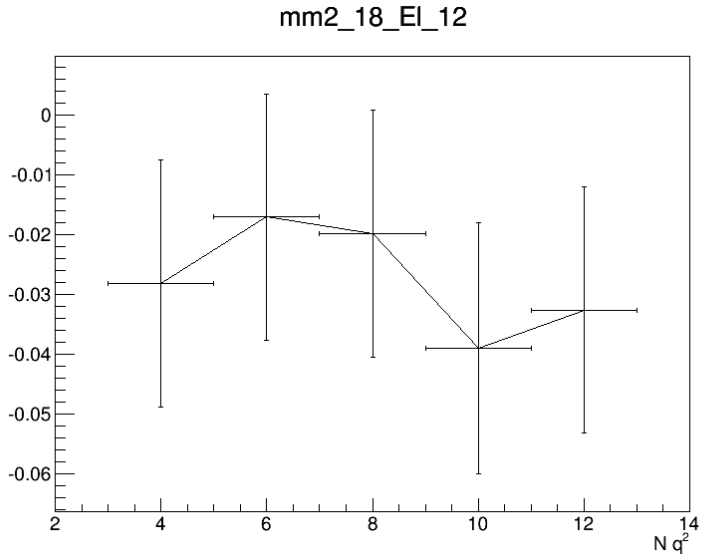


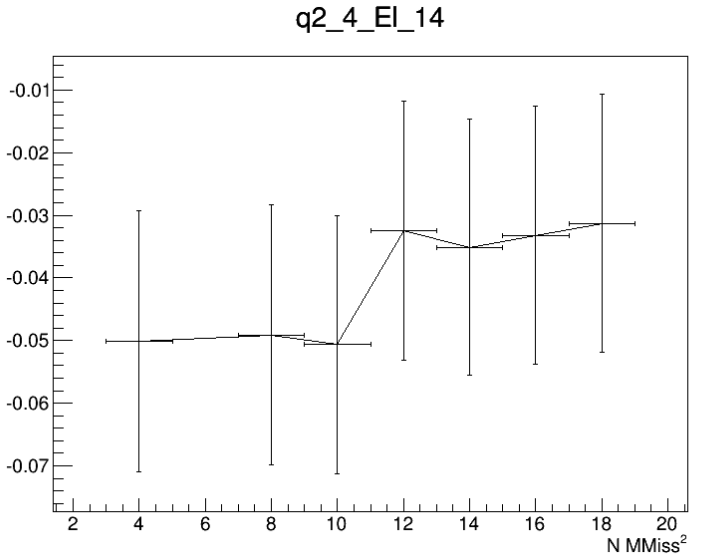


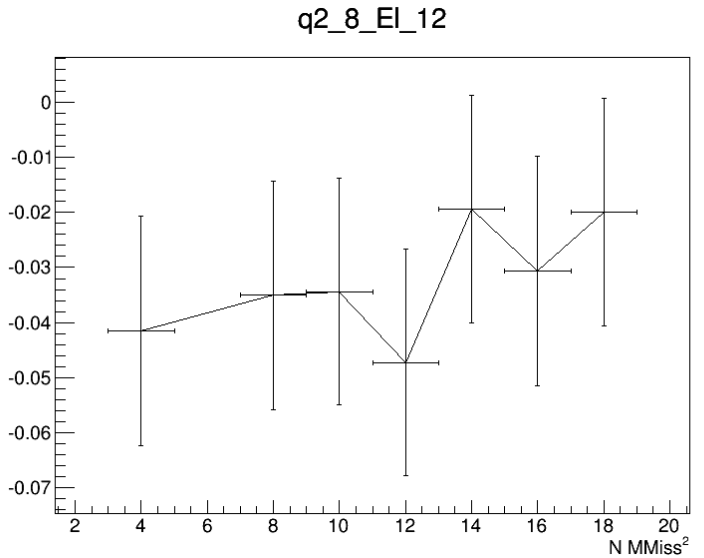


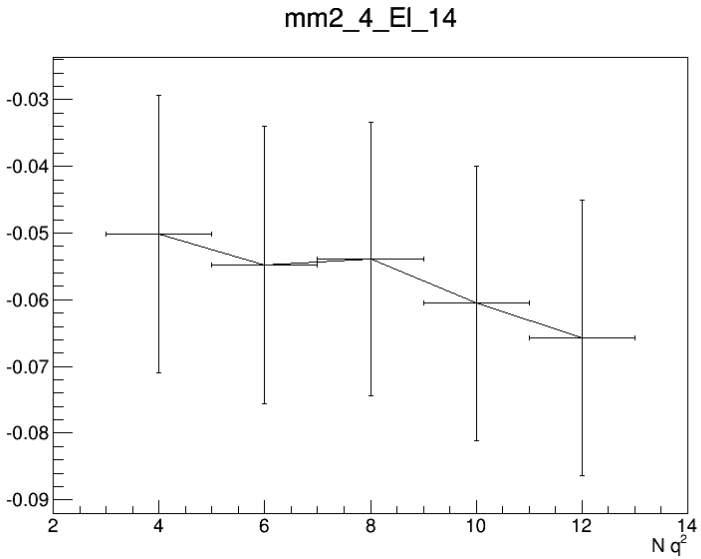


Results $R(\Lambda_c^*) = 1/3$

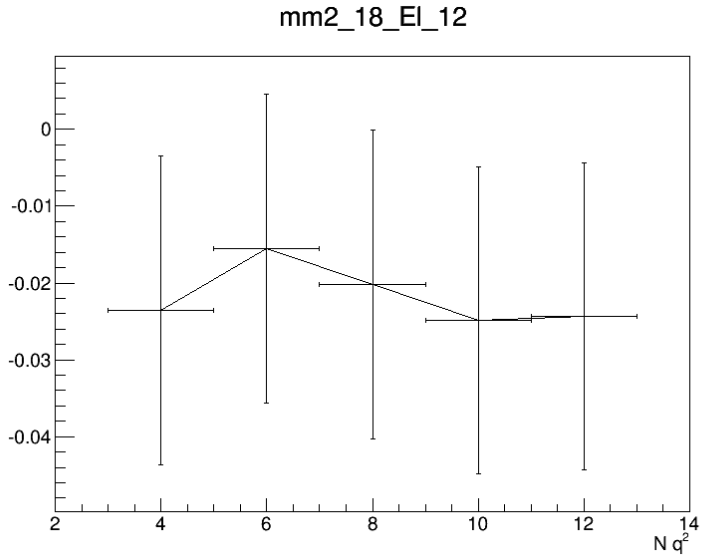


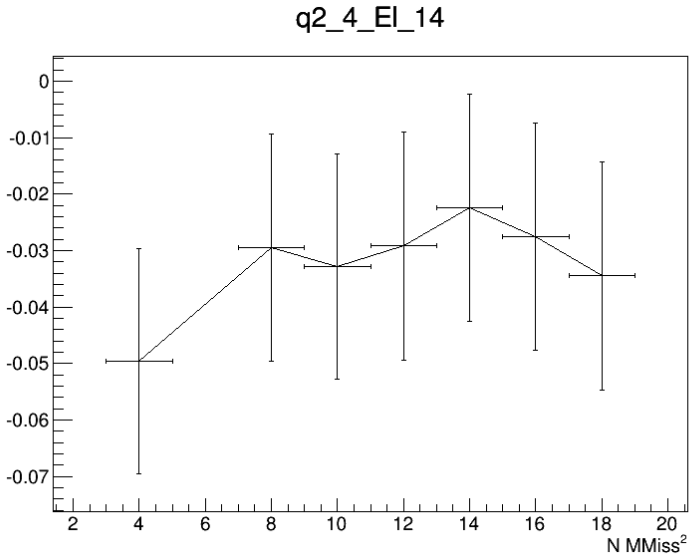


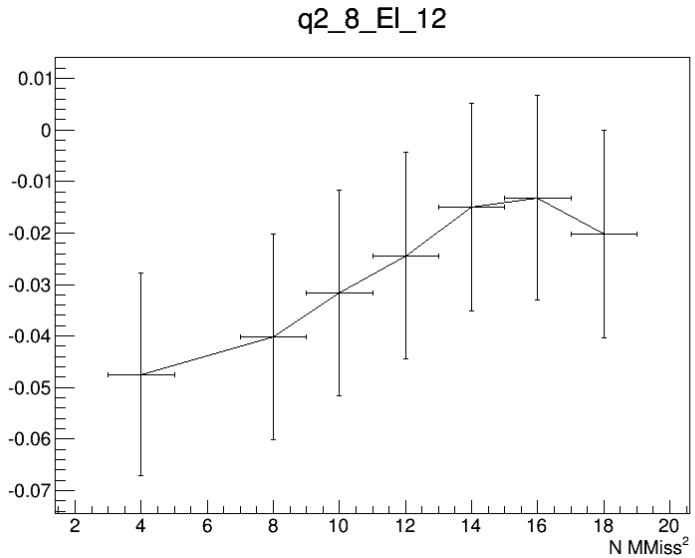


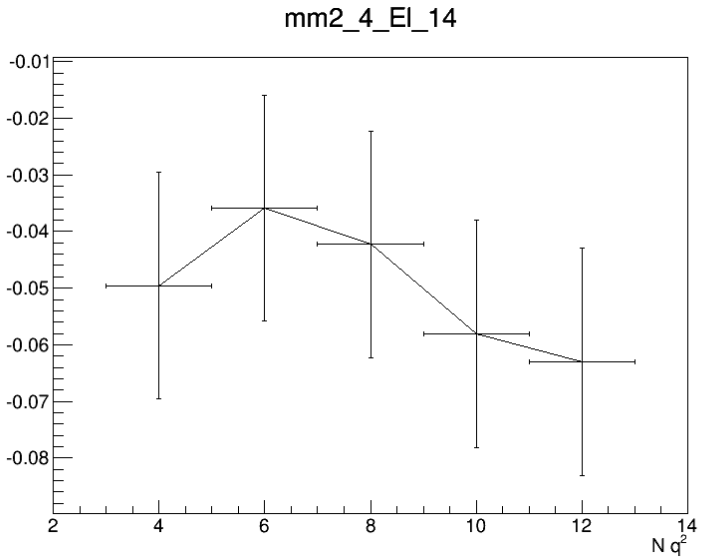


Results $R(\Lambda_c^*) = 0.(21)$









Conclusions

⇛ So fit works!
⇛ The previously observed bias was due to the fact of empty bin treatment!
⇛ Now working on selection to know how much background we have so we can add it into the toys.

svn

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