Results for profiled FC for $B^0 \to K^\star \mu\mu$

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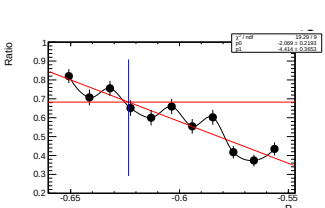
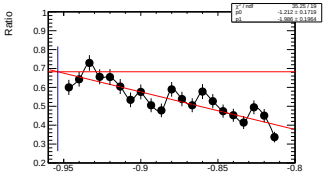
no meeting,
work, February 2, 2017

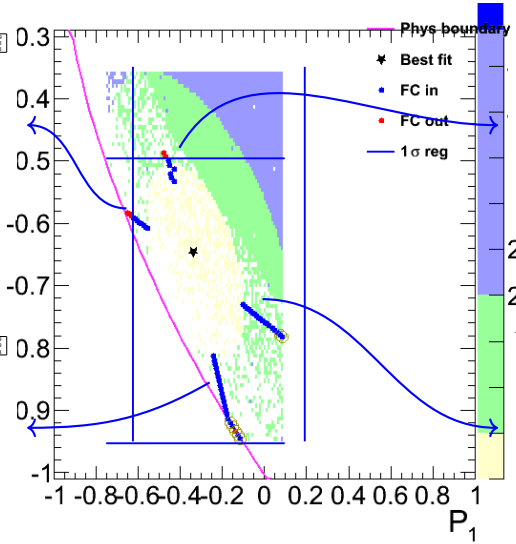
Evaluation of DLL

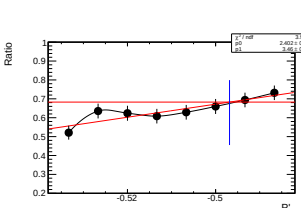
- It seems that for some bins the bivariate fit is not working perfectly
- the maximum of the $\mathcal{L}$ is in the correct place, but it seems to be a little lower than the data;
  - Slide 3:
    - current FC estimate for bin 7
  - Slide 4:
    - yellow is $\mathcal{L}$ (profiled)
    - blue line is bivariate gaussian fit (profiled)
    - red line is a guassian fit on profiled histo
  - Slide 5:
    - distribution of toy DLL (yellow), data DLL (red line), with 68.27% region for toy (green area), and a $\chi^2(nDoF = 1)$ fit (black)
  - Slide 6:
    - same, but with data DLL with gaus fit on profiled histo
    - comparing 5 vs 6, it is clear that the difference is too small to have an impact
  - Slide 7:
    - new results: nothing has changed

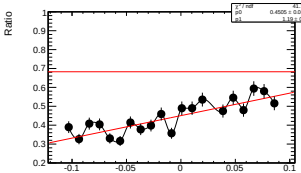
Bin 7









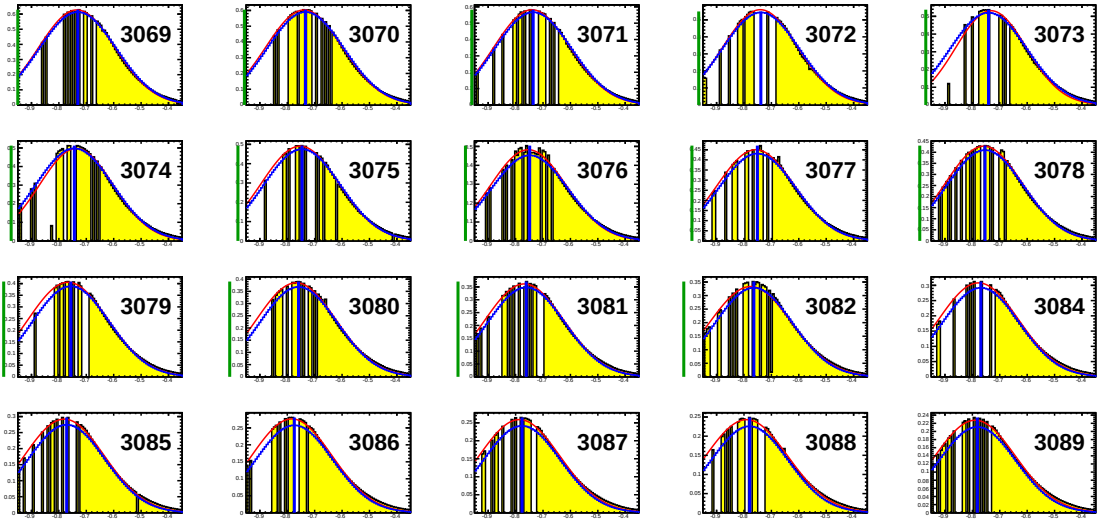


Done

Maybe?

Done

No


3069
3070
3071
3072
3073
3074
3075
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3077
3078
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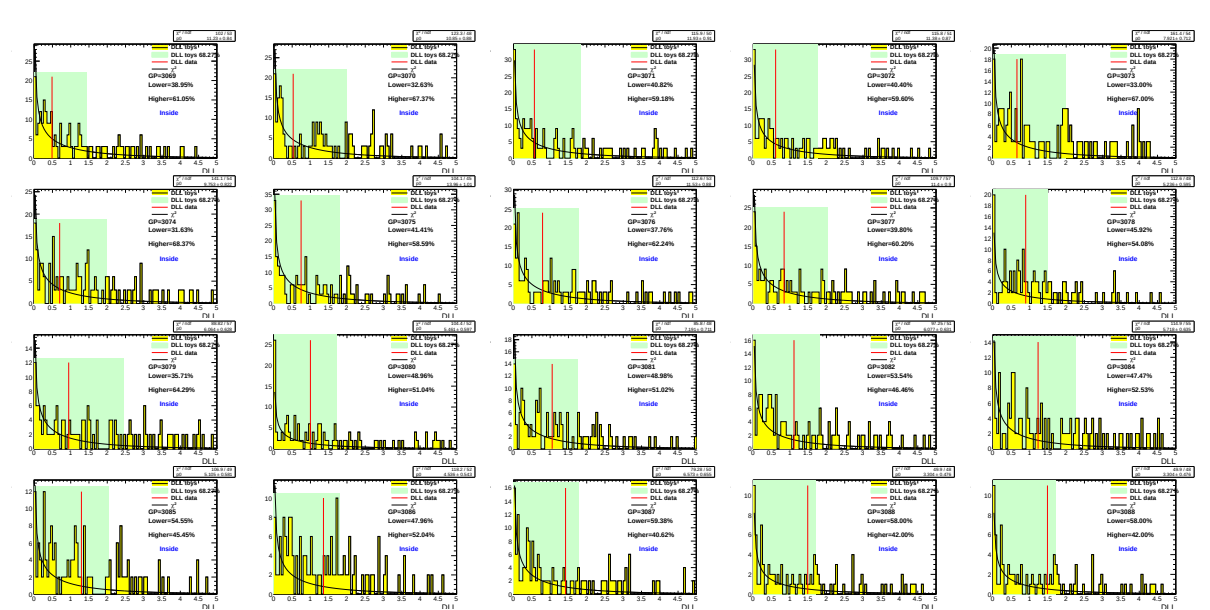
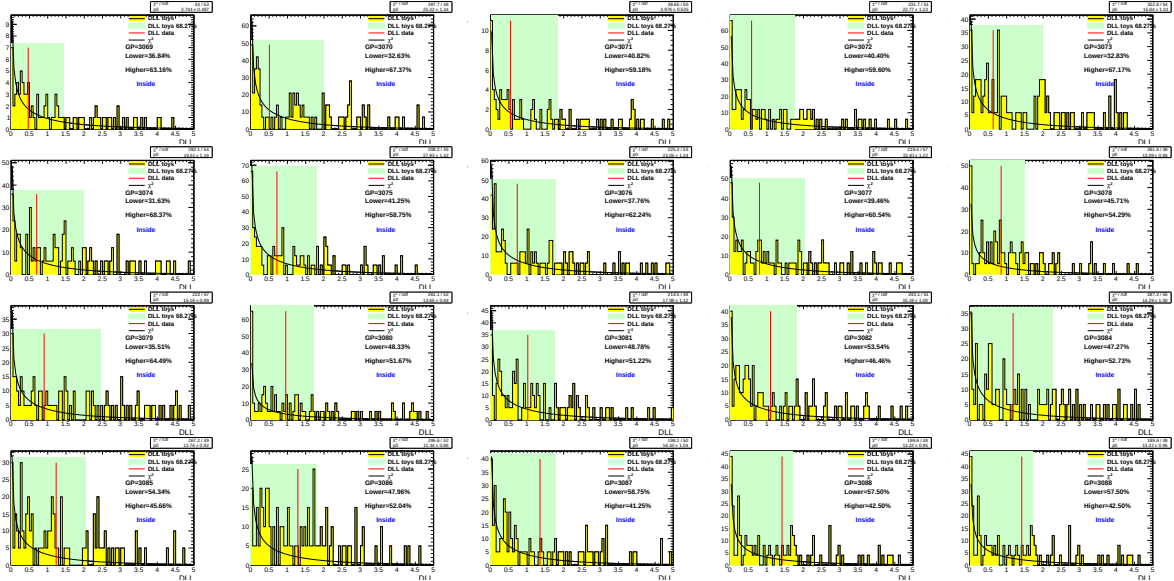
3080
3081
3082
3084
3085
3086
3087
3088
3089


DLL toys
DLL toys 68.27%
DLL data
χ²
GP=3069
Lower=38.95%
Higher=61.05%
Inside
GP=3070
Lower=32.63%
Higher=67.37%
Inside
GP=3071
Lower=40.82%
Higher=59.18%
Inside
GP=3072
Lower=40.40%
Higher=59.60%
Inside
GP=3073
Lower=33.00%
Higher=67.00%
Inside
GP=3074
Lower=31.63%
Higher=68.37%
Inside
GP=3075
Lower=41.41%
Higher=58.59%
Inside
GP=3076
Lower=37.76%
Higher=62.24%
Inside
GP=3077
Lower=39.80%
Higher=60.20%
Inside
GP=3078
Lower=45.92%
Higher=54.08%
Inside
GP=3079
Lower=35.71%
Higher=64.29%
Inside
GP=3080
Lower=48.96%
Higher=51.04%
Inside
GP=3081
Lower=48.98%
Higher=51.02%
Inside
GP=3082
Lower=53.54%
Higher=46.46%
Inside
GP=3084
Lower=47.47%
Higher=52.53%
Inside
GP=3085
Lower=54.55%
Higher=45.45%
Inside
GP=3086
Lower=47.96%
Higher=52.04%
Inside
GP=3087
Lower=59.38%
Higher=40.62%
Inside
GP=3088
Lower=58.00%
Higher=42.00%
Inside
GP=3068
Lower=58.00%
Higher=42.00%
Inside
DLL


DLL toys1
DLL toys 68.2%
DLL data
χ²
GP=3069
Lower=36.84%
Higher=63.16%
Inside
GP=3070
Lower=32.63%
Higher=67.37%
Inside
GP=3071
Lower=40.82%
Higher=59.18%
Inside
GP=3072
Lower=40.40%
Higher=59.60%
Inside
GP=3073
Lower=32.83%
Higher=67.17%
Inside
GP=3074
Lower=31.63%
Higher=68.37%
Inside
GP=3075
Lower=41.25%
Higher=58.75%
Inside
GP=3076
Lower=37.76%
Higher=62.24%
Inside
GP=3077
Lower=39.46%
Higher=60.54%
Inside
GP=3078
Lower=45.71%
Higher=54.29%
Inside
GP=3079
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Higher=64.49%
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Higher=51.67%
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Inside
GP=3085
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Higher=45.66%
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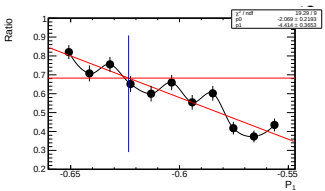
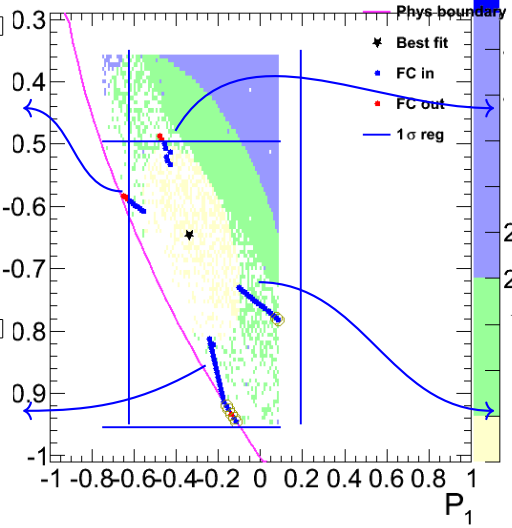
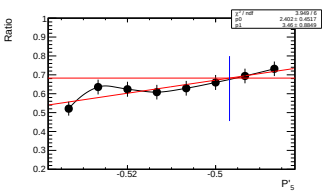
GP=3086
Lower=47.96%
Higher=52.04%
Inside
GP=3087
Lower=58.75%
Higher=41.25%
Inside
GP=3088
Lower=57.50%
Higher=42.50%
Inside
GP=3089
Lower=57.50%
Higher=42.50%
Inside
DLL

Bin 7

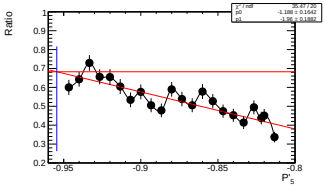






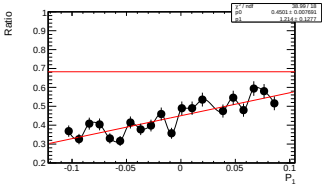
Done

Maybe?

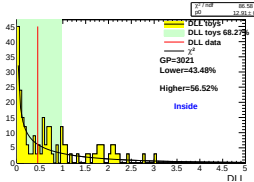


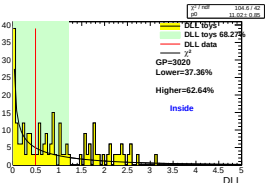
Done

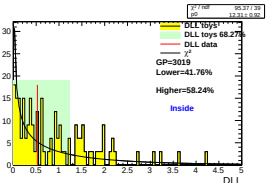
No

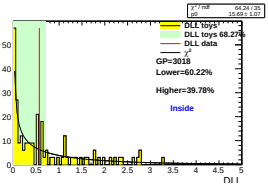


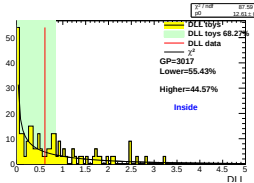
Bin 7, P_1 $-\sigma$

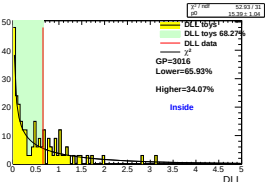


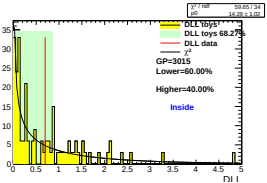


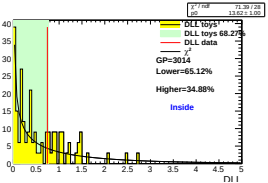


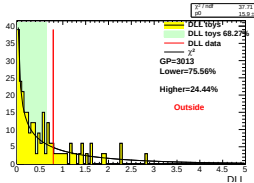


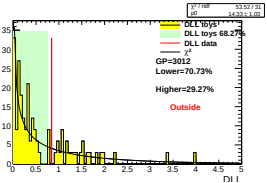


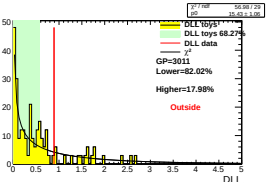






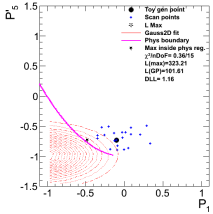






Placeholder

Non Conv



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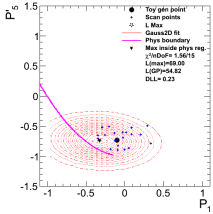

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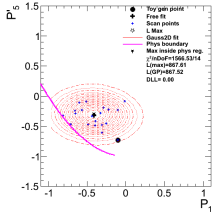

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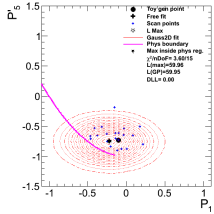

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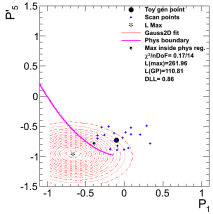

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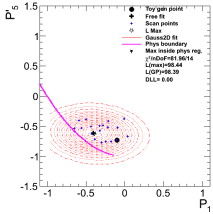

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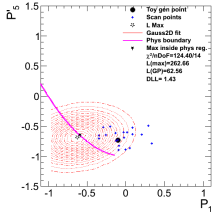

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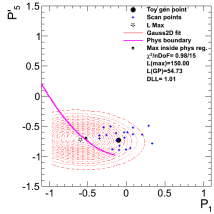
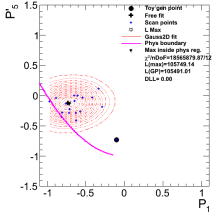


If the initial free fit do not converge, the 20 scan points are **not** randomized If the initial free fit do converge, the 2d fit is very coherent with that

Conv



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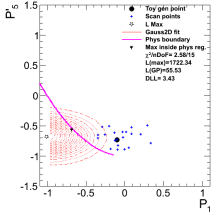

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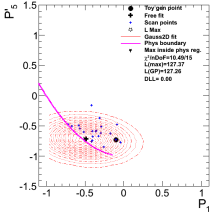

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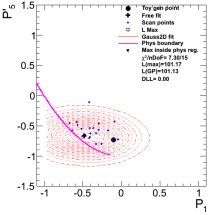
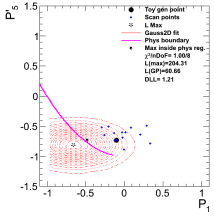


Non Conv



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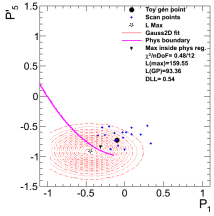

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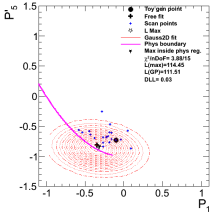

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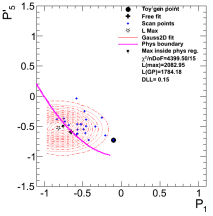
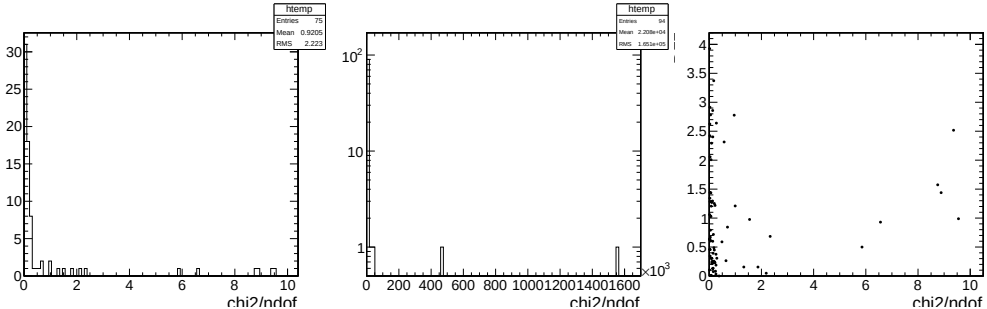


DLL vs Chi2 of 2d gaus fit for one GenPoint



Additional stuff

Additional or backup slides

Bibliography I