

Angular distribution of background

Marcin Chrząszcz^{1,2}, Nicola Serra¹



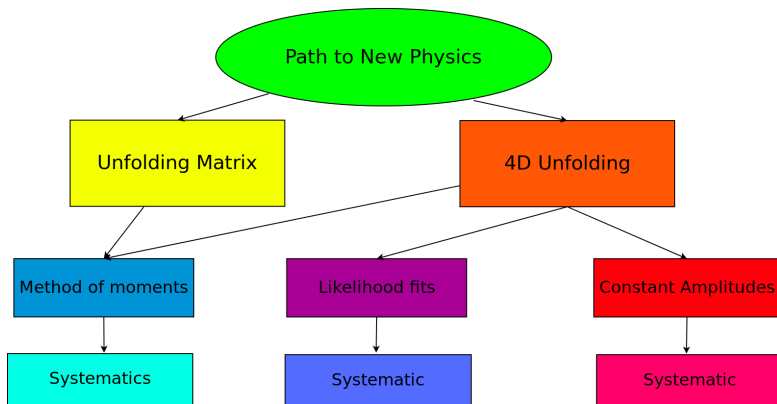
University of
Zurich^{UZH}



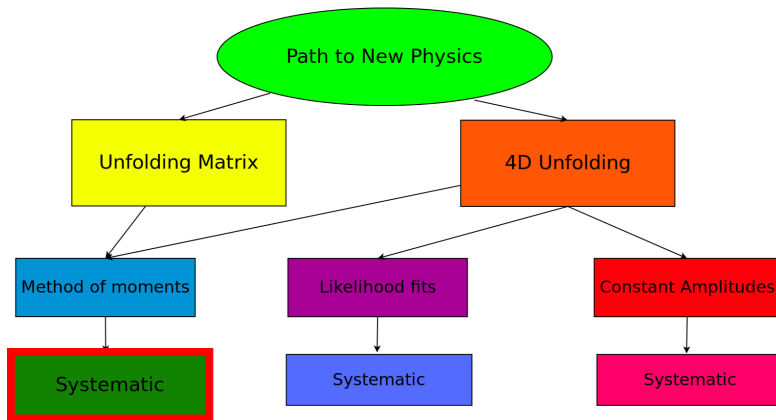
¹ University of Zurich,
² Institute of Nuclear Physics, Krakow

May 25, 2014

Quo vadis $B^0 \rightarrow K^* \mu\mu$?

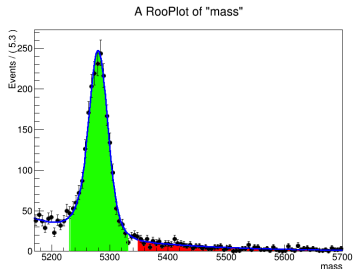


Quo vadis $B^0 \rightarrow K^* \mu\mu$?



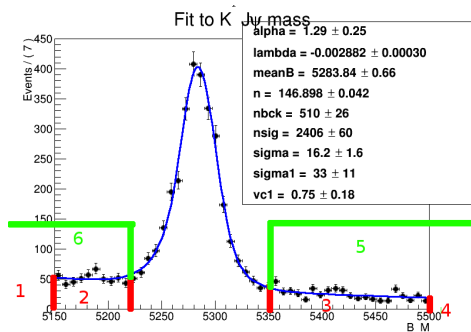
Assumptions

- Each method assumes that background angular distribution is the same in the red and green region.
- This might not be necessary the true.
- Let's test this using method of moments.



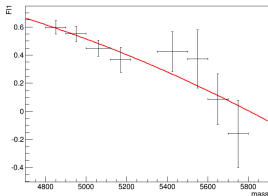
Studied background region

- Divided mass regions in different q^2 bins.
- To each calculate the S_X components and see if there is a clear trend.
- Try fitting and seeing the impact in the signal window.

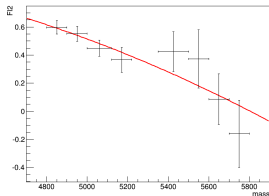


Studied background region

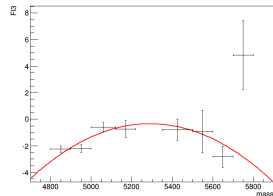
Q[0_1-0_98]_F1



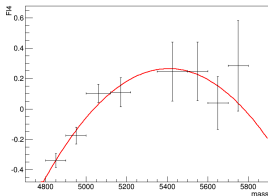
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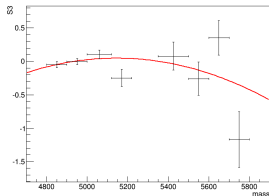
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Q[0_1-0_98]_F4



Q[0_1-0_98]_S3

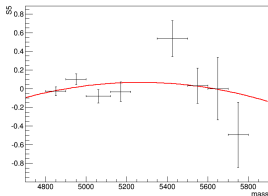


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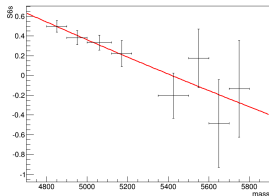


Studied background region

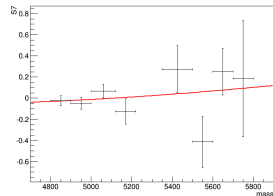
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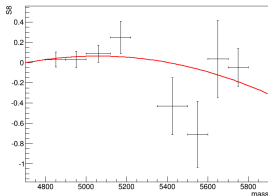
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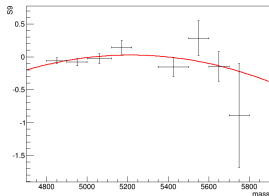
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Q[0_1-0_98]_S8

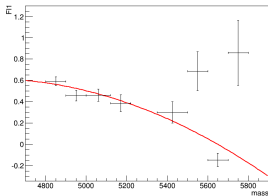


Q[0_1-0_98]_S9

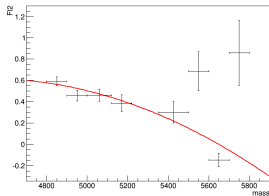


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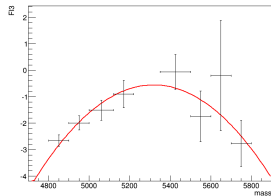
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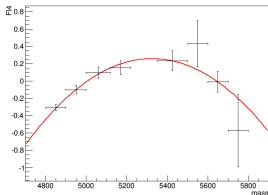
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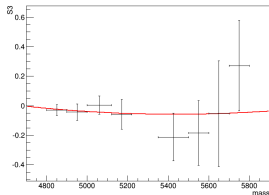
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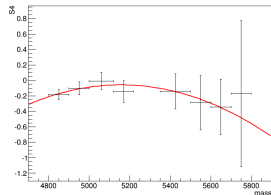
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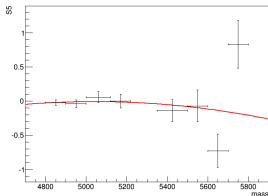


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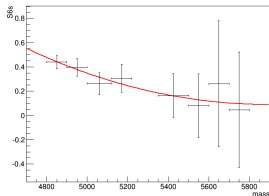


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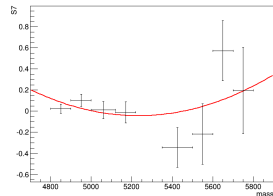
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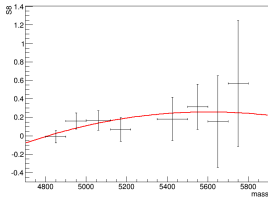
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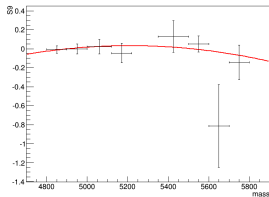
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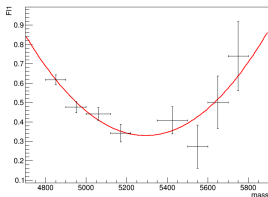


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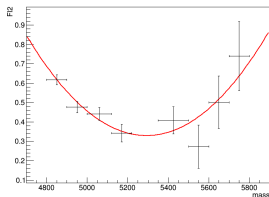


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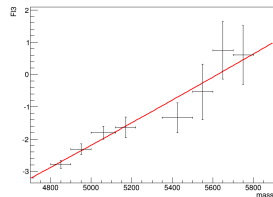
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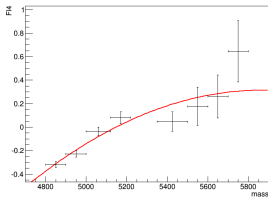
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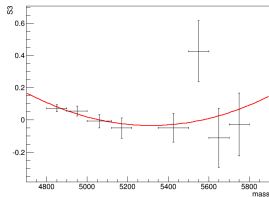
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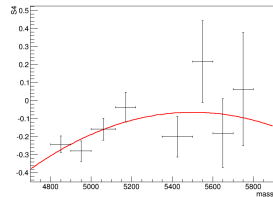
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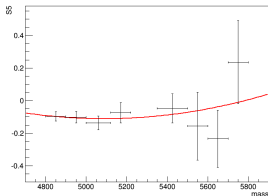


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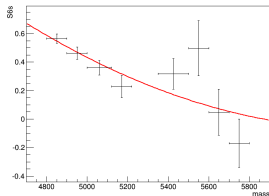


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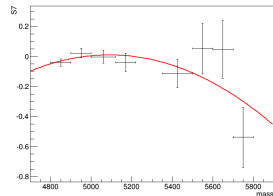
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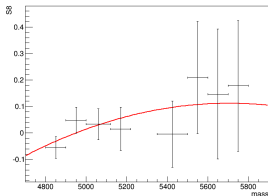
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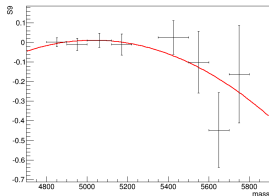
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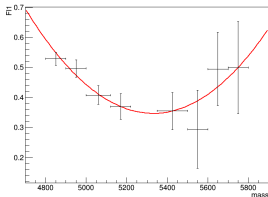


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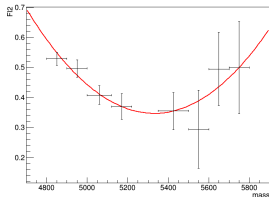


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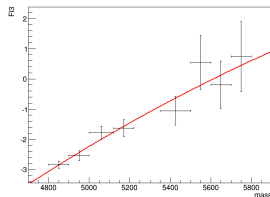
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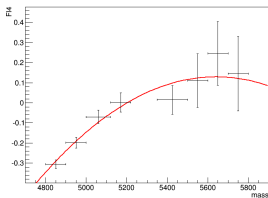
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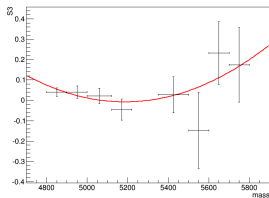
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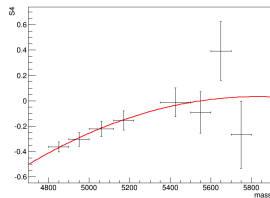
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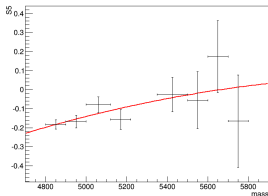


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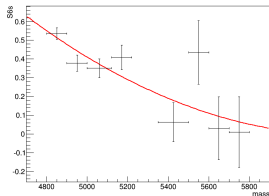


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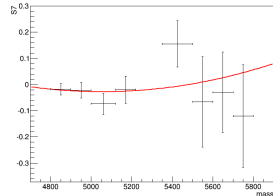
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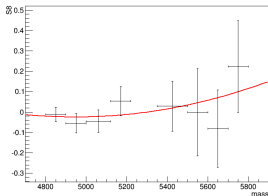
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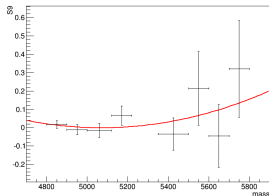
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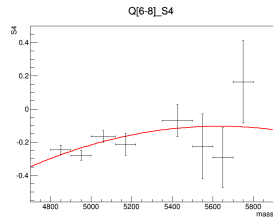
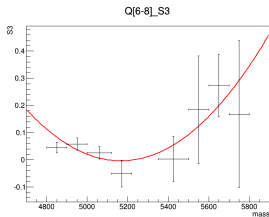
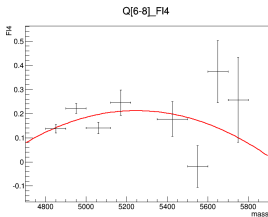
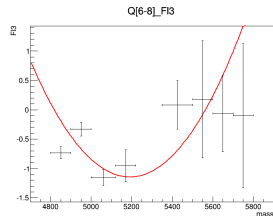
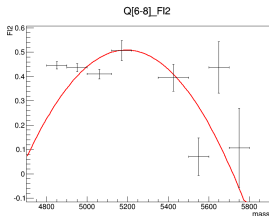
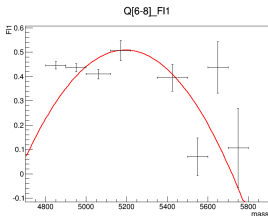
Q[4-6]_S8



Q[4-6]_S9

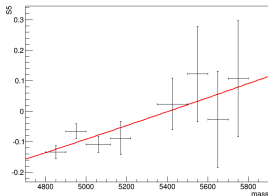


Studied background region

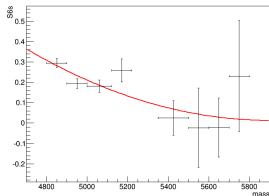


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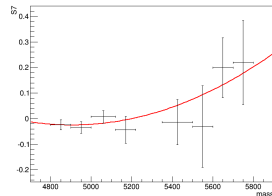
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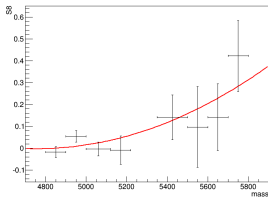
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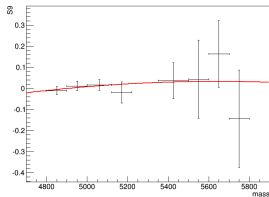
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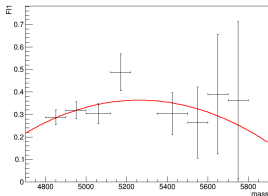


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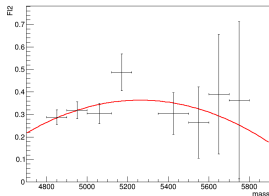


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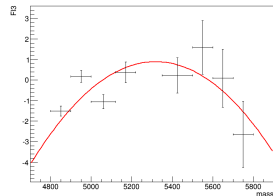
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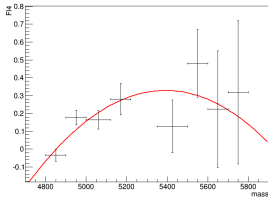
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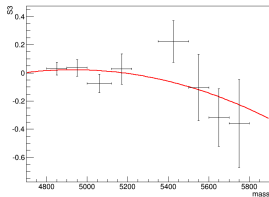
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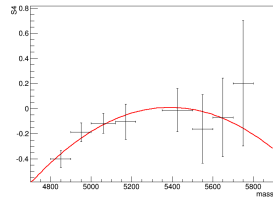
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Q[11-11_75]_S3

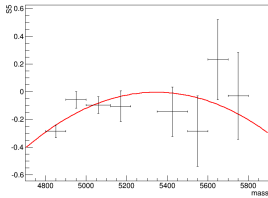


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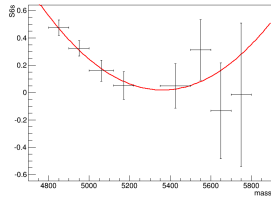


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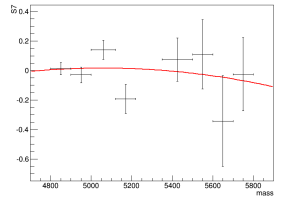
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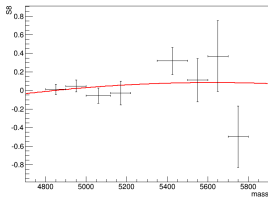
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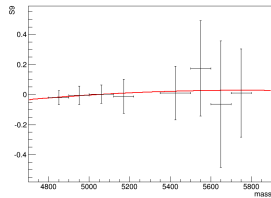
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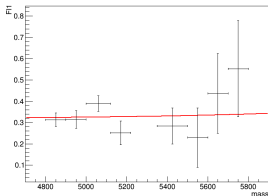


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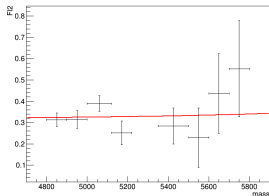


Studied background region

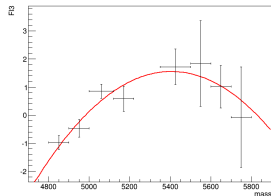
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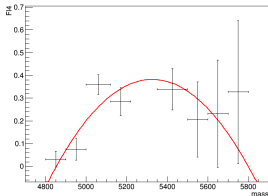
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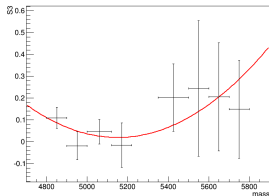
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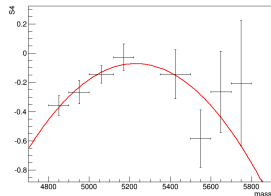
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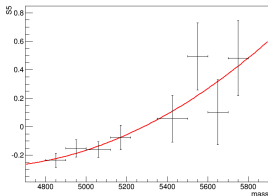


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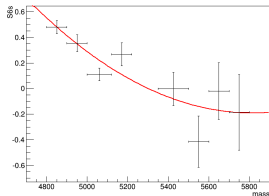


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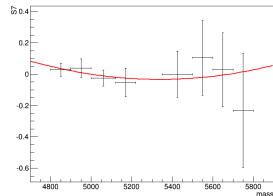
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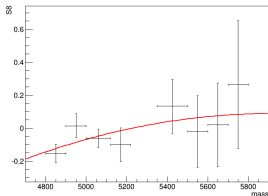
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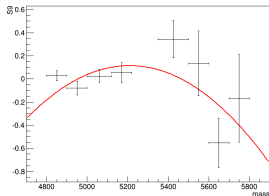
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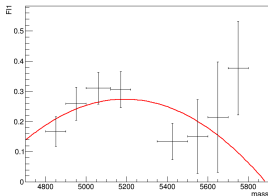


Q[11_75-12_5]_S9

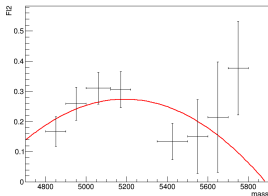


Studied background region

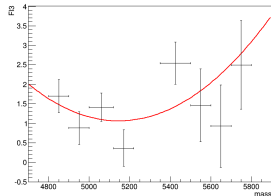
Q[15-17]_F1



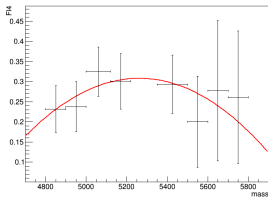
Q[15-17]_F2



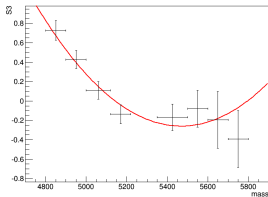
Q[15-17]_F3



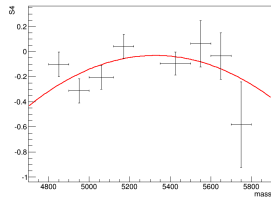
Q[15-17]_F4



Q[15-17]_S3

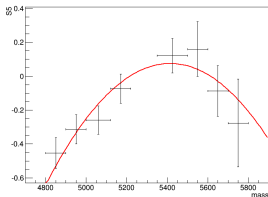


Q[15-17]_S4

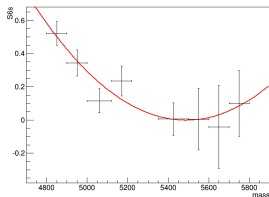


Studied background region

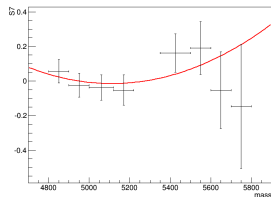
Q[15-17]_S5



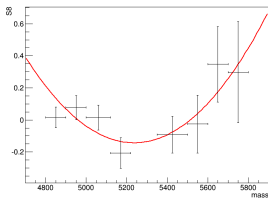
Q[15-17]_S6s



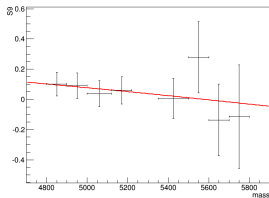
Q[15-17]_S7



Q[15-17]_S8

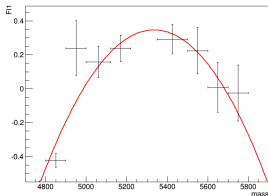


Q[15-17]_S9

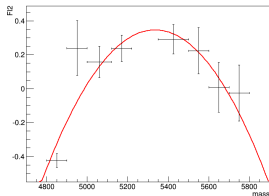


Studied background region

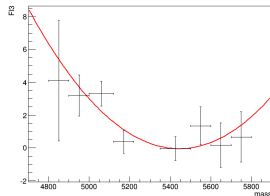
Q[17-19]_F1



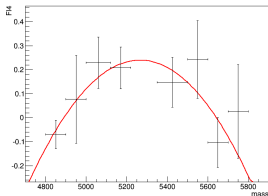
Q[17-19]_F2



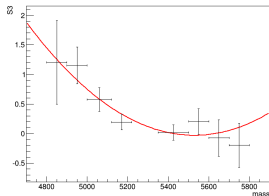
Q[17-19]_F3



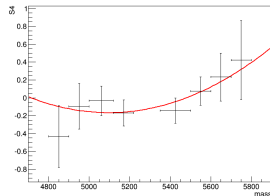
Q[17-19]_F4



Q[17-19]_S3



Q[17-19]_S4



Conclusion

- There is small dependence on background and mass.
- For MM easy to assign systematic to it.
- Fits need some more thinking.

