

Optimization for $B \rightarrow K$ emu

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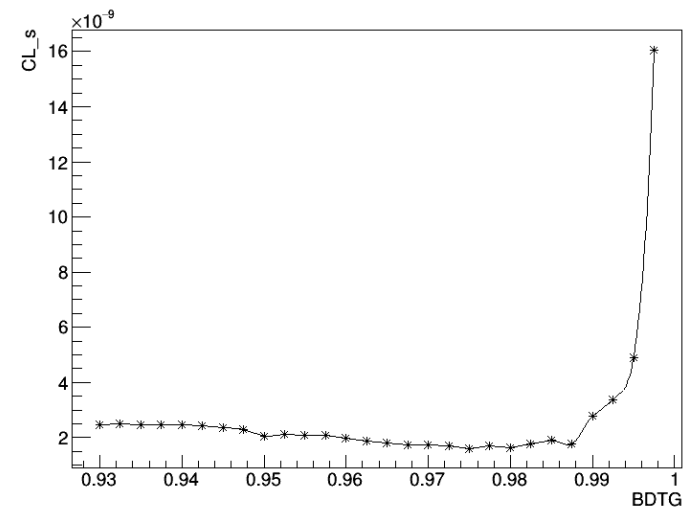
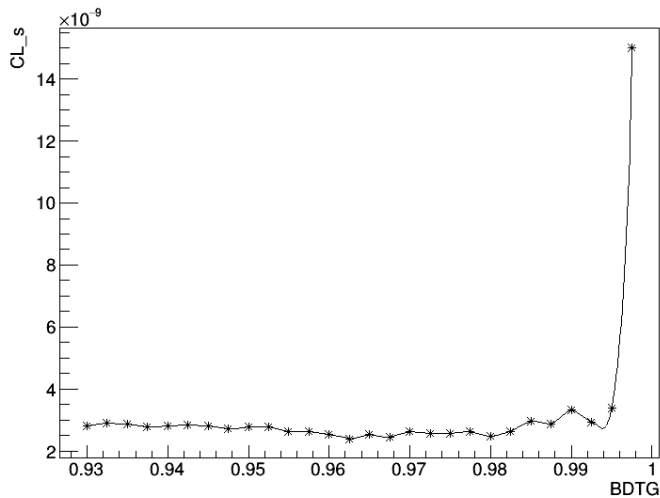
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Introduction

- We have now 3 ProbNNs and 2 BDTs that will be used in the final selection.
- One needs to find optimum cuts for both of them.
- 5-dim space is a non easy beast to optimize :(
- Attempt to optimize the parameters space....
- We are doing a swap in data sets: optimizing on $K_{mu}(K_e)$ and applying to $K_e(K_{mu})$.

Combinatorial background BDT

- We are trying to reduce the dimension optimization by optimizing the combinatorial background BDT as it's a separate sample. We use the upper sideband for it.



- The UL is rather flat and stable. We propose to have a cut of 0.98 for both samples.

Rest of the optimization

- Now we use the lower sideband for the other 4-dim optimization.
- Here are the profile-likelihoods.

