

Optimisation of isolation and binning for $\tau \rightarrow 3\mu$.

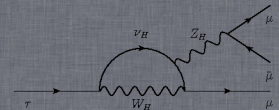
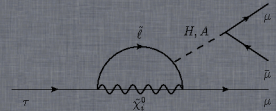
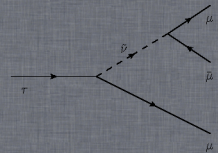
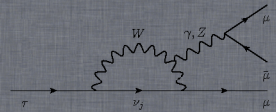
Marcin Chrzęszcz^{1,2}, Nicola Serra¹

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

27th August 2013



University of Zurich^{UZH}



D_s correction

D_s correction

Splot

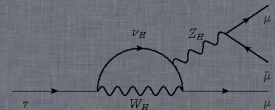
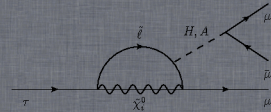
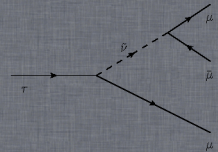
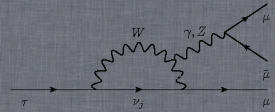
Splot

Isolation parameter

Isolation parameter

Stripping lines

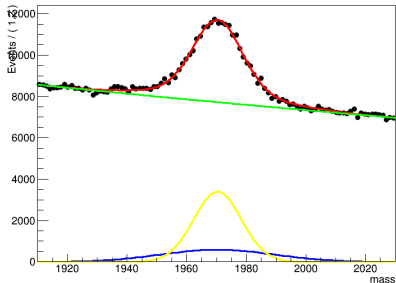
Stripping lines



D_S correction

Fit $D_S \rightarrow \phi(\mu\mu)\pi$ in data.

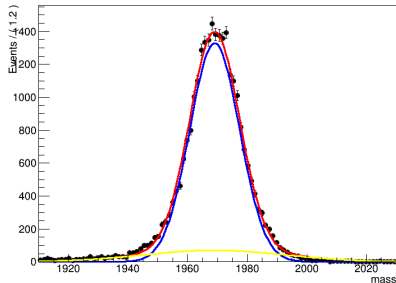
A RooPlot of "mass"



• mean = $1970.3 \pm 0.9 \text{ MeV}$

Fit $D_S \rightarrow \phi(\mu\mu)\pi$ in MC.

A RooPlot of "mass"



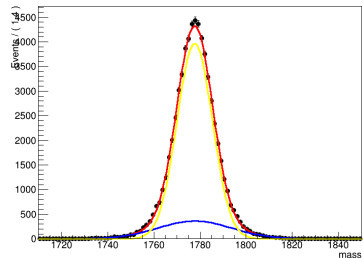
• mean = $1969.1 \pm 0.60 \text{ MeV}$

D_s correction

- $mean_{\tau \rightarrow 3\mu} = \frac{1970.3}{1969.1} \times 1777.7 = 1778.8 \text{ MeV}$

Fit $\tau \rightarrow \mu\mu\mu$ in MC.

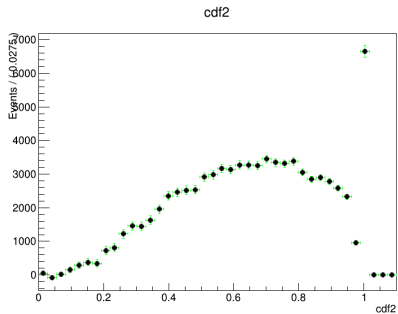
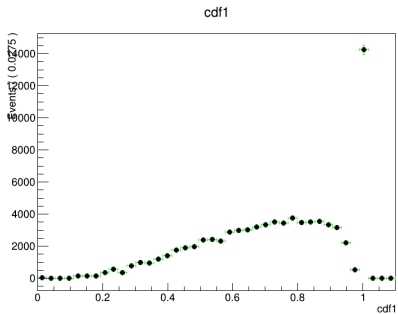
A RooPlot of "mass"



- $mean = 1777.7 \pm 0.4 \text{ MeV}$

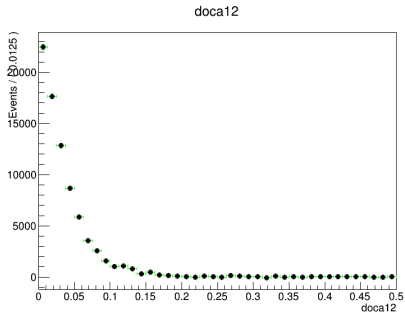
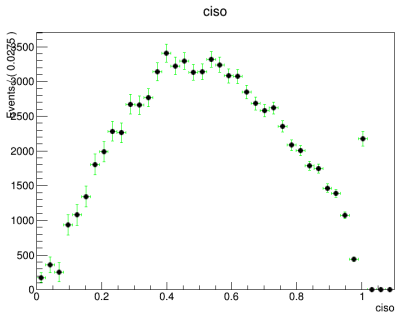
Splot

I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.



Splot

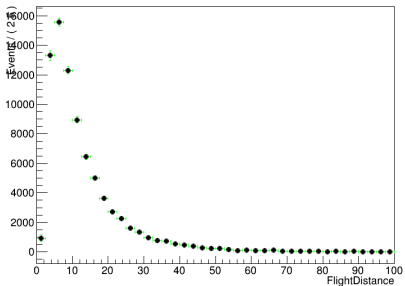
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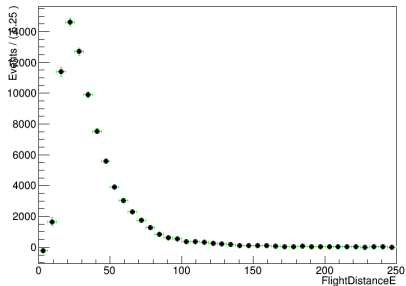
Splot

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FD



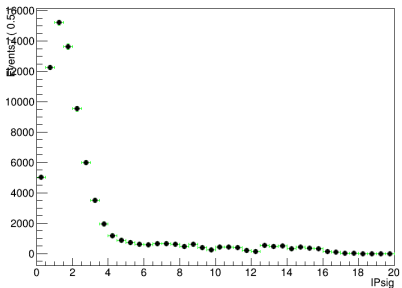
FDE



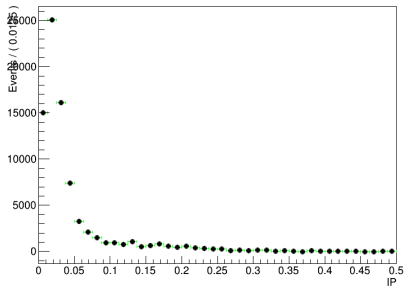
Splot

I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.

IPsig

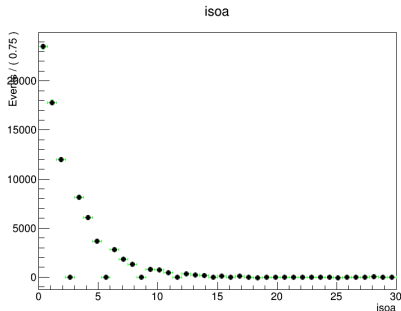
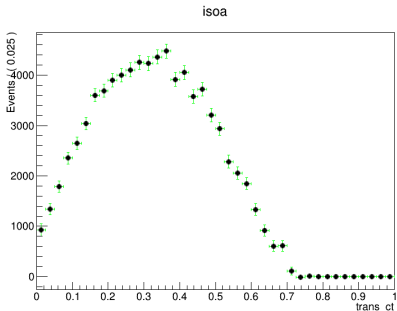


IPv



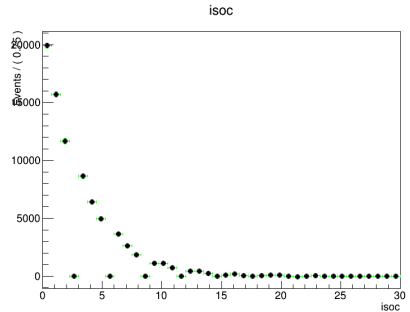
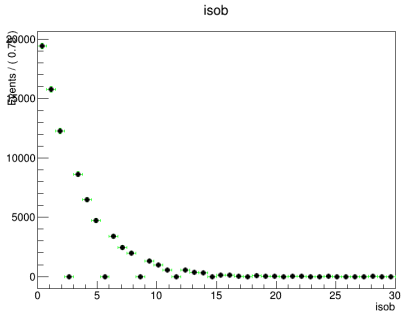
Splot

I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.



Splot

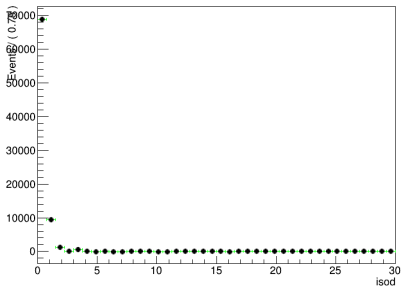
I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.



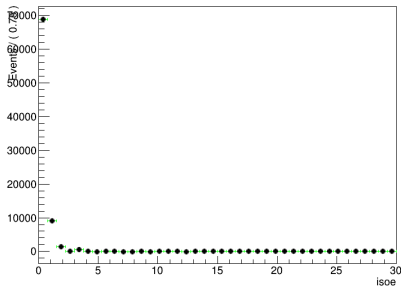
Splot

I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.

isod



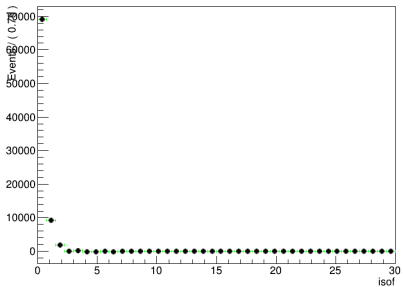
isoe



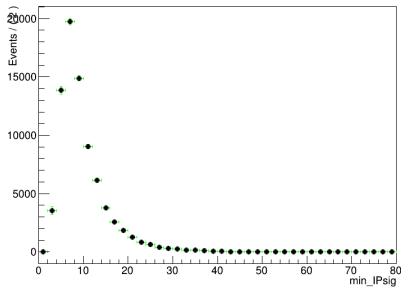
Splot

I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.

isof



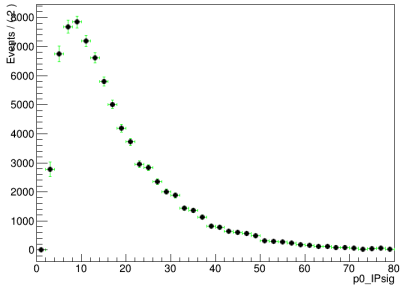
min_IPsig



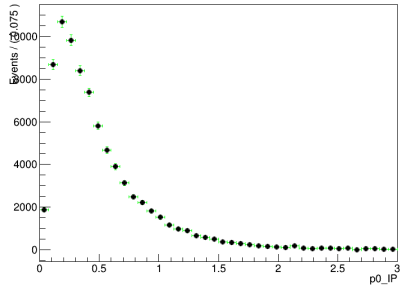
Splot

I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.

p0_IPsig



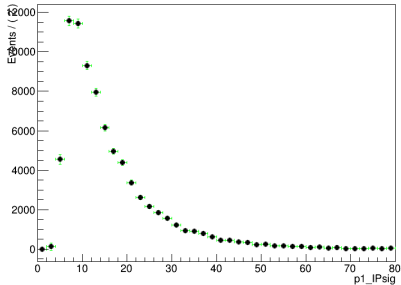
p0_IPv



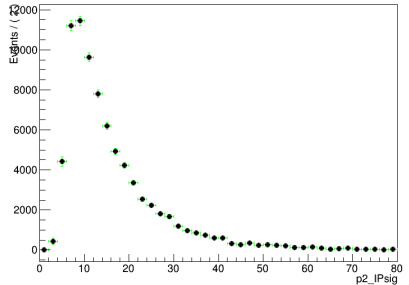
Splot

I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.

p1_IPsig

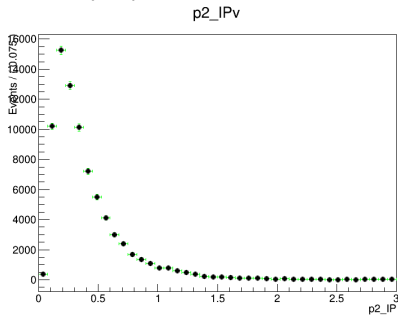
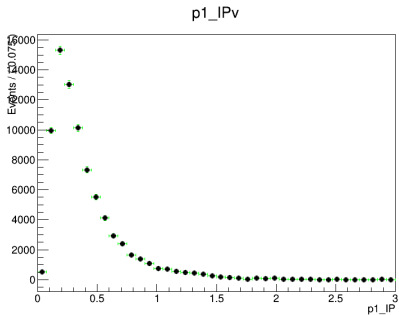


p2_IPsig



Splot

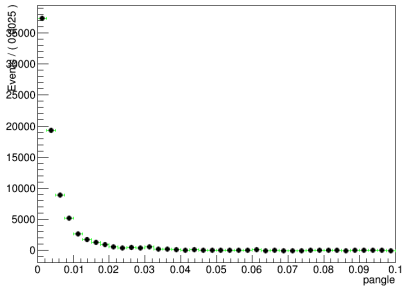
I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.



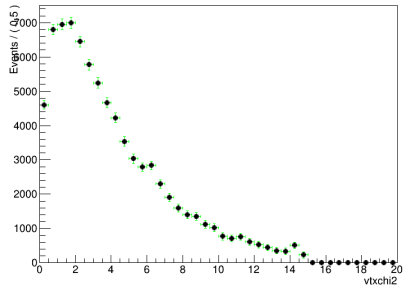
Splot

I did Splot for our control channel: $D_s \rightarrow \phi(\mu\mu)\pi$.

pangle

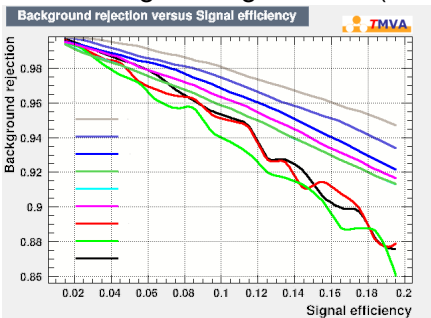


vtxchi2

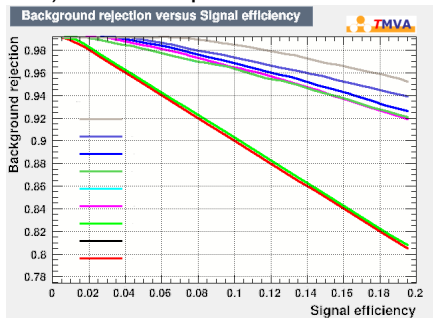


Isolation parameter

I managed to make small improvement on the isolation parameter, restricting it to higher mass ($M > 5\text{GeV}$). Small improvement.



I consider Isolation for $K^* \mu\mu$ fixed.



Stripping lines

Last week i made changes to the inflaton stripping line and added $B^0 \rightarrow K^* \pi \pi$ line for calibration of $K^* \mu \mu$
TOTAL FAILURE.



EPIC FAIL

If you're going to f*ck up anyway, you might as well f*ck up in such a way that it leaves people wondering how that f*ck you did that!!

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