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## Study of $B_s^0 \rightarrow \phi\phi\phi$ via charmonium resonances

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Multiple fits were done with the run 2 of the LHCb data, to extract signal of  $B_s^0 \rightarrow \phi\phi\phi$  events via charmonia resonances. First, 3D fits in the bins of the  $B_s^0$  invariant mass were computed to get the estimated number of true  $\phi\phi\phi$  events. With a new histogram with the resulting signal for each bin, a fit was applied, to extract the  $B_s^0$  signal. After this fit, from the triggered data of 1972 events, it returned  $321.26 \pm 49.3$  events in the signal yields. This procedure also was applied in the bins of the Dalitz plot of the three body decay  $B_s^0 \rightarrow \phi\phi\phi$  to then apply a fit of a  $\eta_c$  resonance. However due to the low number of events, the yields and uncertainties didn't converged correctly.

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