

# $B^0 \rightarrow K^* \mu^- \mu^+$

## MC requirements



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# Plans 1

⇒ MC required for  $B \rightarrow K^* \mu \mu$  2015+2016 analysis.

⇒ Numbers are taken from previous round with scaling factor  $\frac{4}{3}$  for the cross section increase.

Decay	Event type	N.o. generated	N.o. stored
$B \rightarrow K^* J/\psi$ (physics)	11144001	2.6M	0.8M
$B \rightarrow K^* \mu \mu$ (acceptance)	11114014	160M	48M
$B \rightarrow K^* \mu \mu$ (physics)	11114001	1.5M	0.5M
$\Lambda_b \rightarrow \Lambda(1530) \mu \mu$	15114000	1.5M	0.5M
$\Lambda_b \rightarrow p K \mu \mu$	15114011	2M	0.6M
$B_s^0 \rightarrow \phi \mu \mu$	13114002	1M	0.3M
$B_u \rightarrow K \mu \mu$	12113001	1M	0.3M

⇒ All productions will be filtered to save disk space.

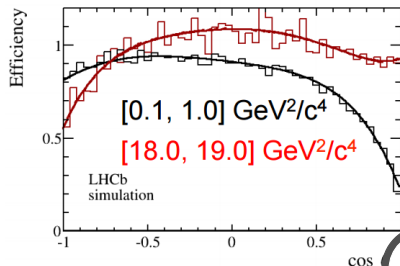
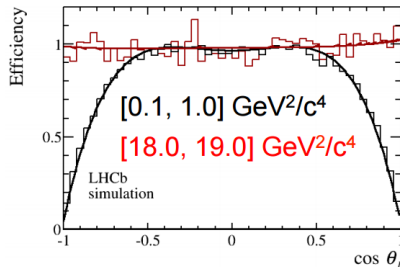
⇒ The large sample will be used to correct the detector acceptance.

# Acceptance

⇒ The kinematics of the decay  $B \rightarrow K^* \mu \mu$  is described by 3 helicity angles ( $\cos \theta_k, \cos \theta_l, \phi$ ) and the squared invariant mass of two muons ( $q^2$ ).

⇒ Because of the 4D acceptance correction a lot of events are needed to populate the parameters space.

⇒ This sample will be enough to keep the related systematics order of magnitude below the expected statistical uncertainty.



# Backup