

Variable	Requirement
Downstream-track selection	
Each π -track momentum	$> 2 \text{ GeV}/c$
Each π -track transverse momentum	$> 0.05 \text{ GeV}/c$
Each track fit χ^2/ndf	< 25
Distance of closest approach of each π -track to the z axis	$> 3 \text{ mm}$
K_S^0 decay vertex fit χ^2/ndf	< 25
z of K_S^0 decay vertex	$< 2200 \text{ mm}$
$ z $ of pseudo-PV	$< 150 \text{ mm}$
$\cos \theta_{\text{pointing}}$	> 0.99995
K_S^0 proper time ($c\tau$)	$> 5 \text{ mm}$
Long-track selection	
$ z $ of associated PV	$< 200 \text{ mm}$
Each track fit χ^2/ndf	< 25
K_S^0 decay vertex χ^2/ndf	< 100
$z(K_S^0) - z(\text{PV})$	$> 0 \text{ mm}$
Variable ν related to impact parameters	> 2