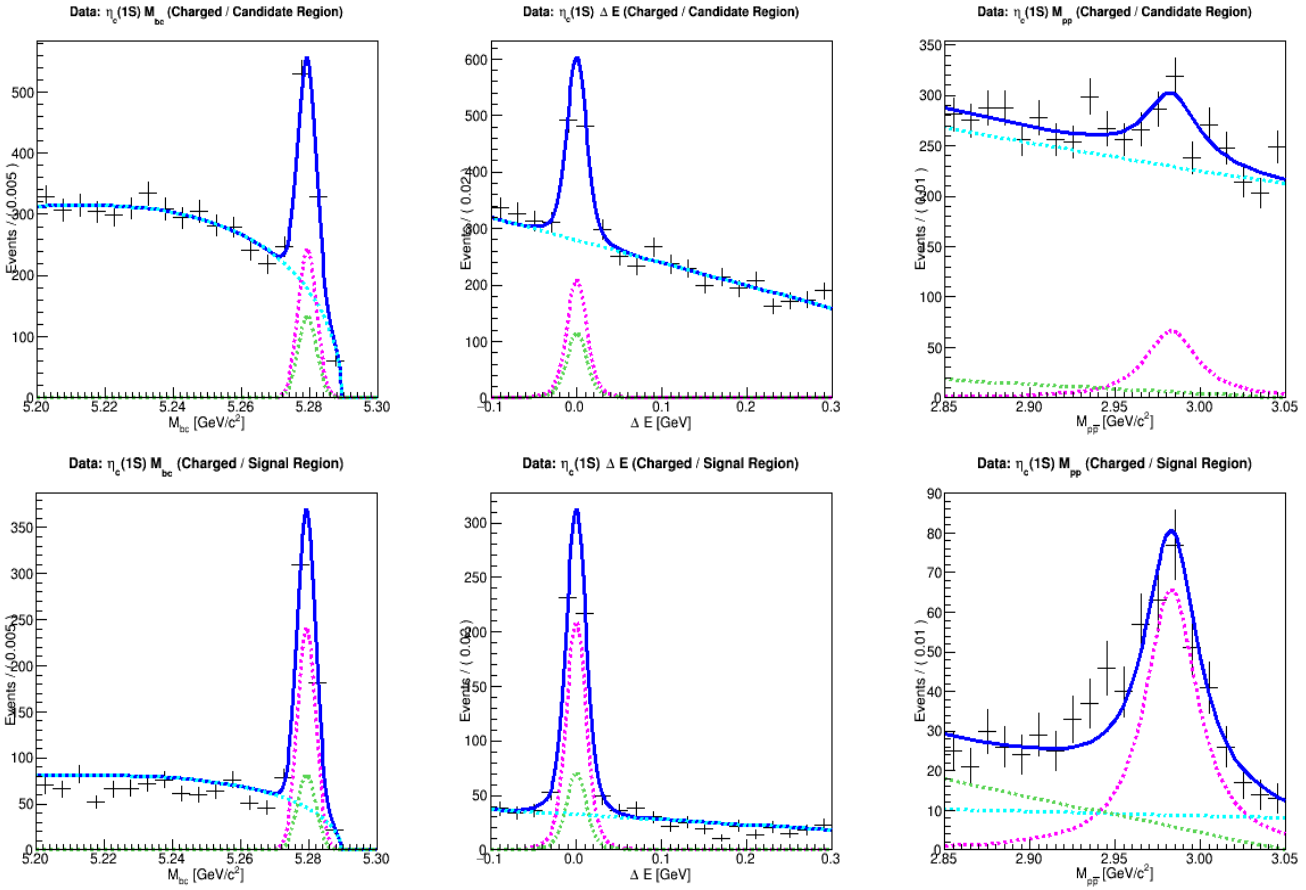
VI. Preliminary Results

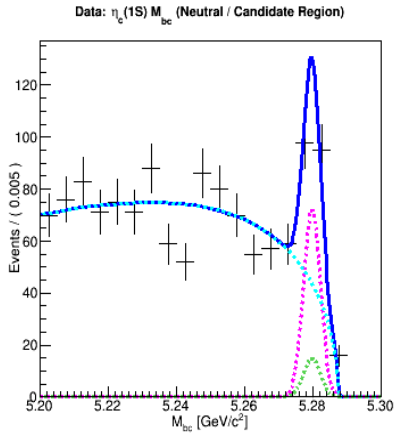
$$B^+ \rightarrow \eta_c(1S)K^+ \rightarrow p\bar{p}K^+$$

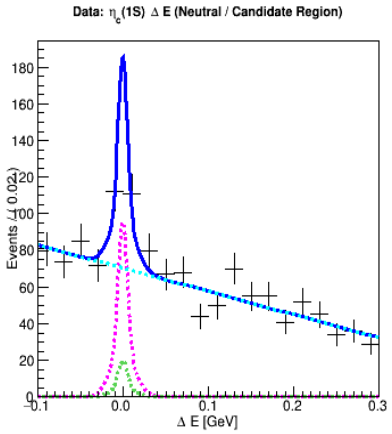


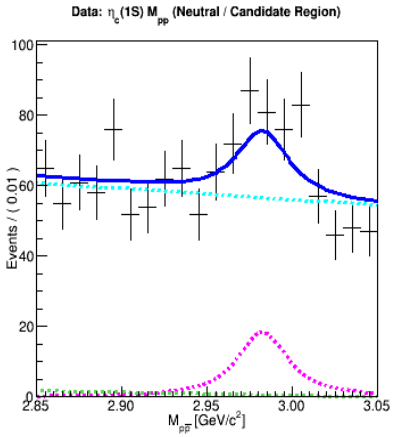
X_{cc}	Yield	Eff.(%)	Significance (σ)	Product BF (10^{-6})
$\eta_c(1S)$	327 ± 31	30.28	13.45	1.40 ± 0.13

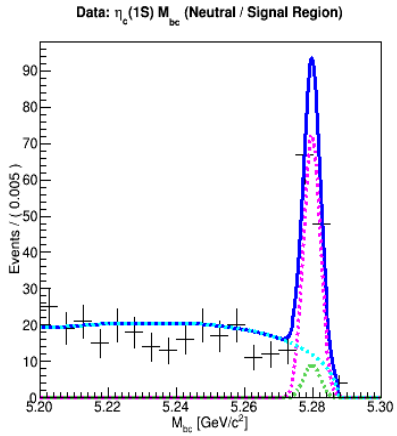
VI. Preliminary Results

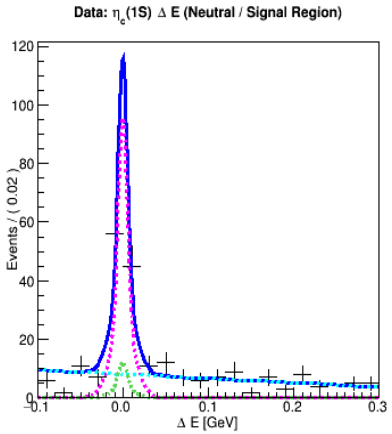
$$B^0 \to \eta_c(1S) K^0_S \to p\bar{p} K^0_S$$

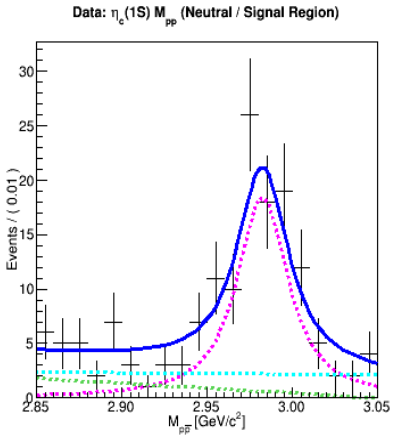








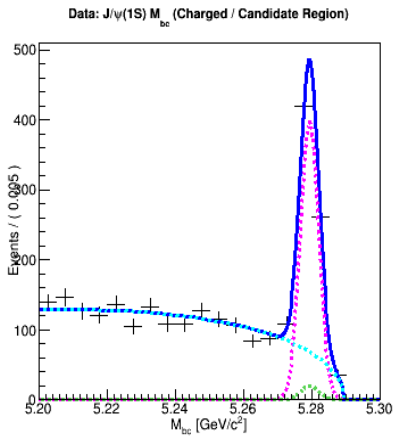


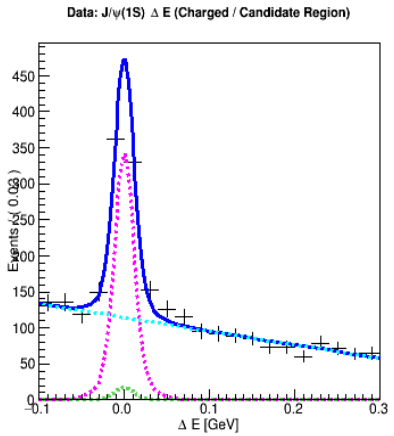


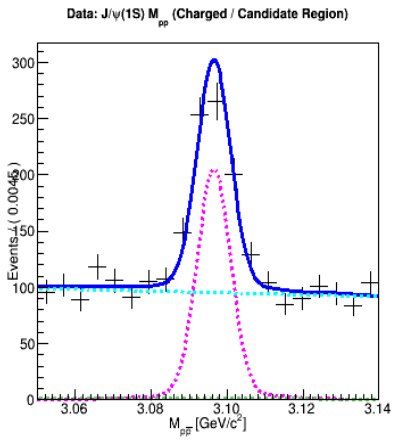
X_{cc}	Yield	Eff.(%)	Significance (σ)	Product BF (10^{-6})
η_c(1S)	89 ± 11	21.27	8.93	0.540 ± 0.067

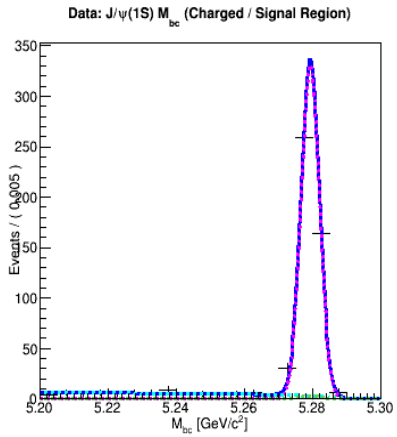
VI. Preliminary Results

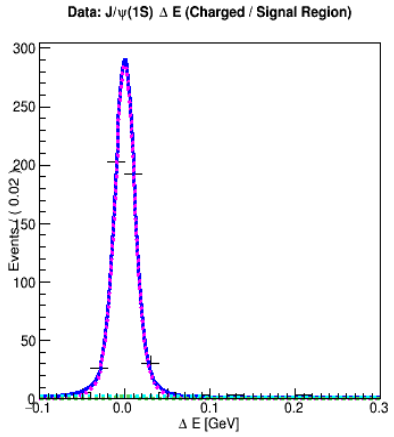
$B^+ \to J/\psi(1S)K^+ \to p\bar{p}K^+$

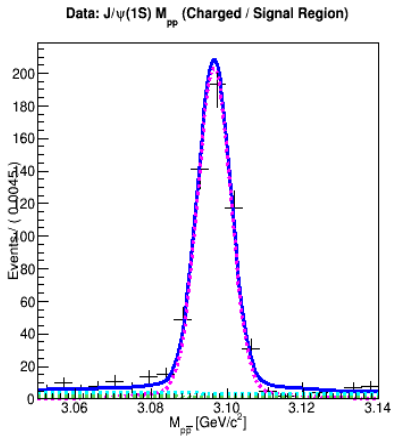








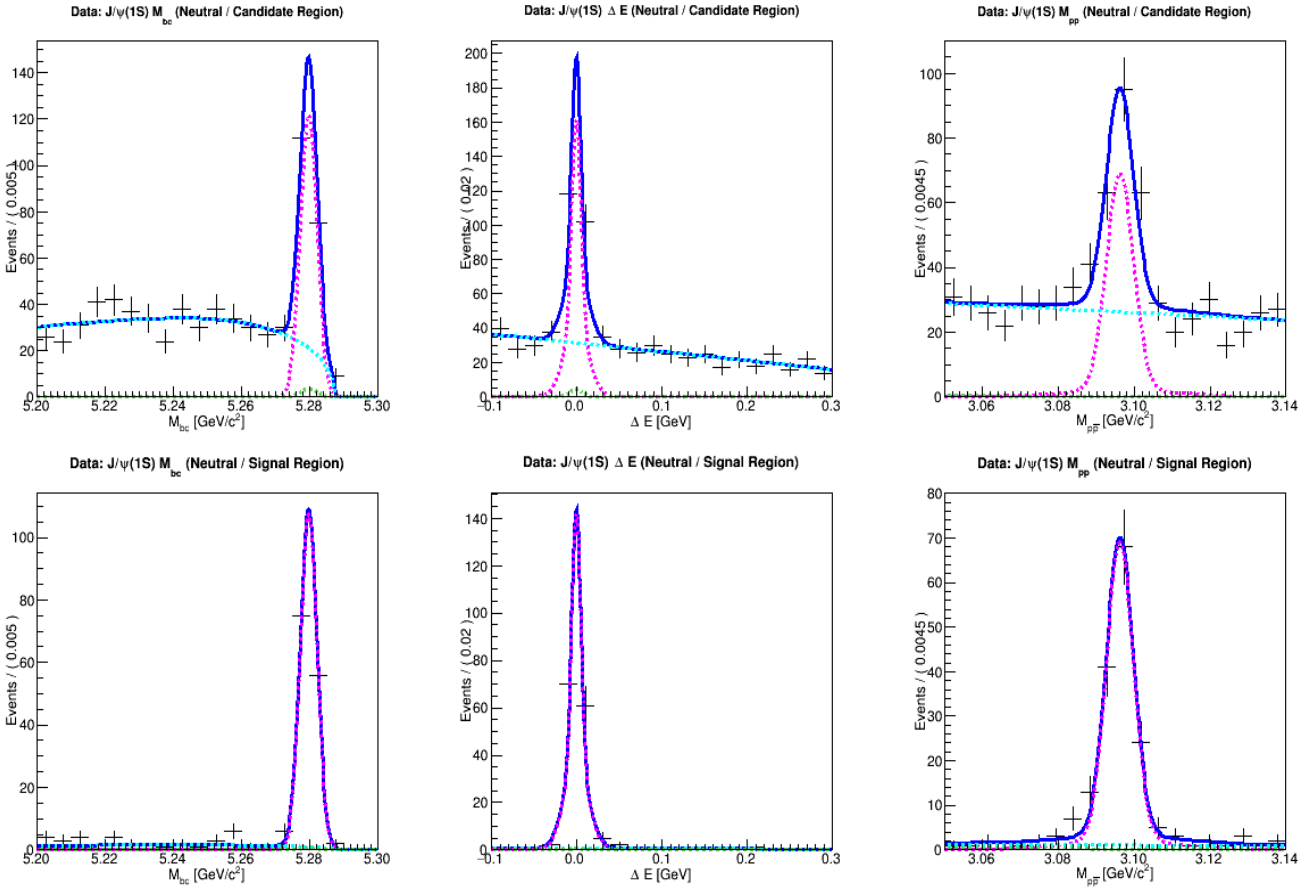




X_{cc}	Yield	Eff.(%)	Significance (σ)	Product BF (10^{-6})
J/ψ(1S)	535 ± 25	31.55	35.26	2.20 ± 0.10

VI. Preliminary Results

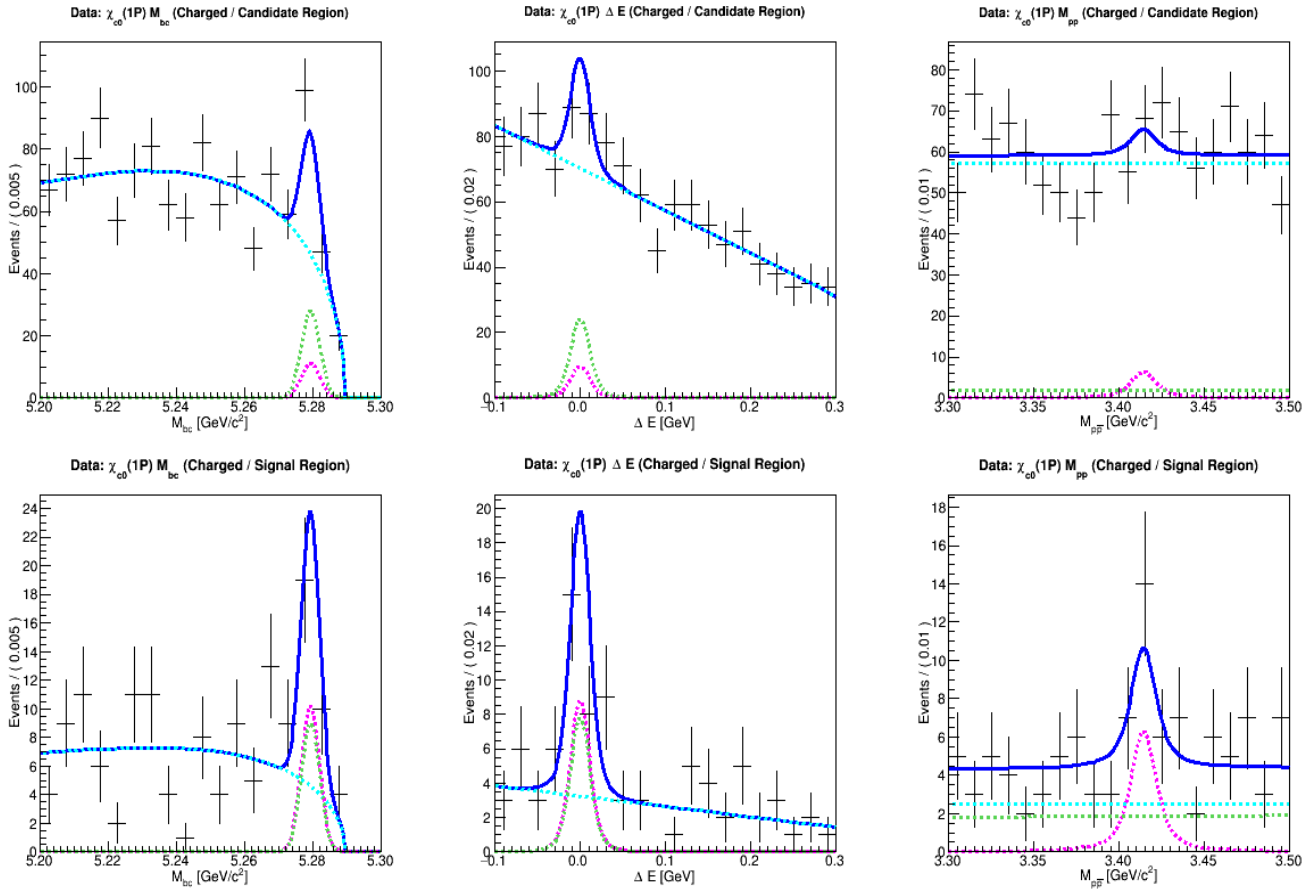
$B^0 \to J/\psi(1S) K^0_S \to p\bar{p} K^0_S$



X_{cc}	Yield	Eff.(%)	Significance (σ)	Product BF (10^{-6})
J/ψ(1S)	150 ± 13	21.90	20.15	0.888 ± 0.076

VI. Preliminary Results

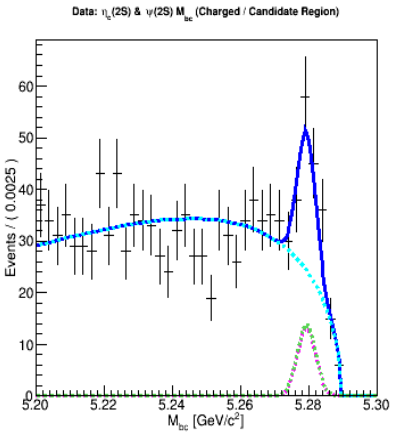
$$B^+ \rightarrow X_{c0}(1P)K^+ \rightarrow p\bar{p}K^+$$

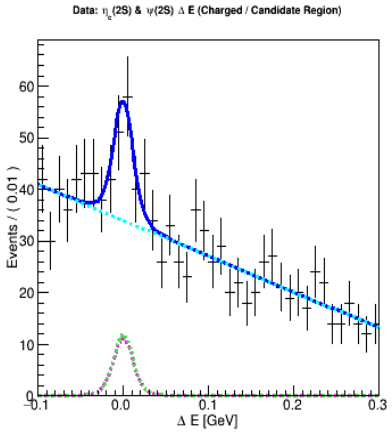


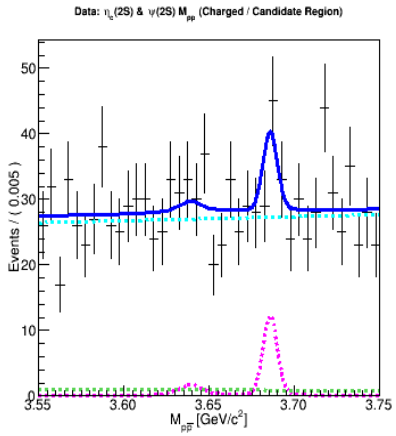
X_{cc}	Yield	Eff.(%)	Significance (σ)	Product BF (10^{-6})
$X_{c0}(1P)$	15 ± 6	19.94	3.21	0.097 ± 0.038

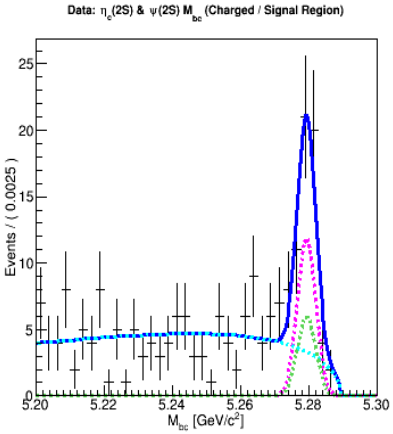
VI. Preliminary Results

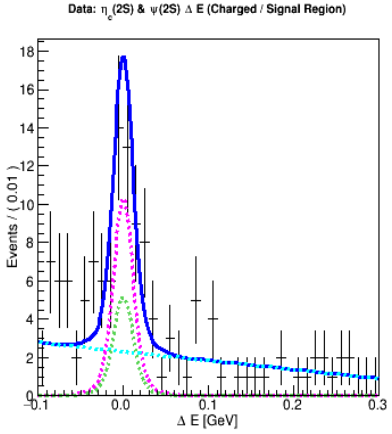
$$B^+ \to \eta_c(2S), \psi(2S) K^+ \to p\bar{p}K^+$$

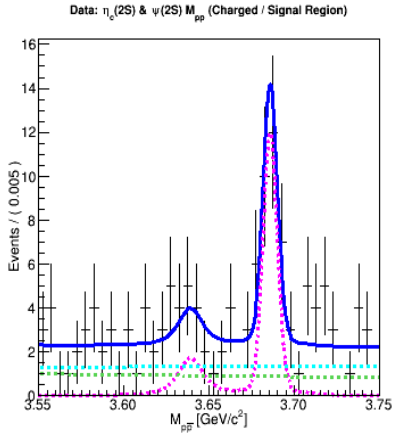






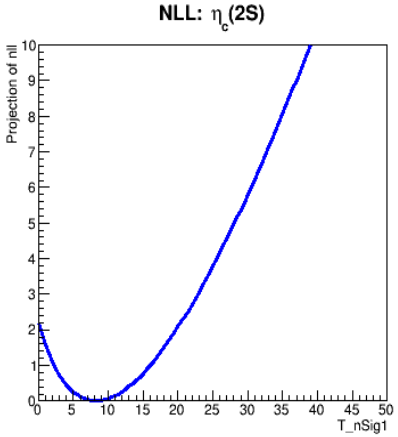


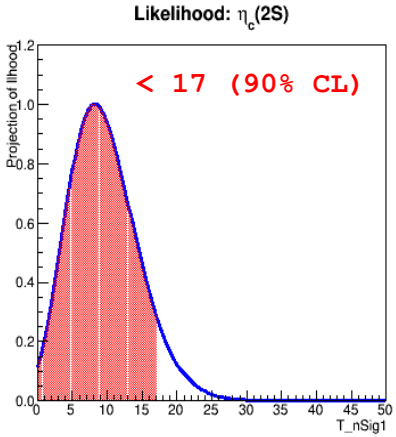


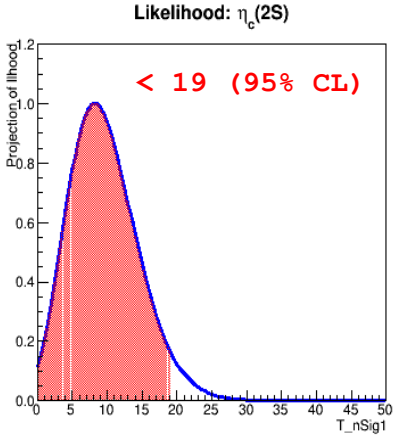


VI. Preliminary Results

$$B^+ \to \eta_c(2S), \psi(2S) K^+ \to p\bar{p}K^+$$



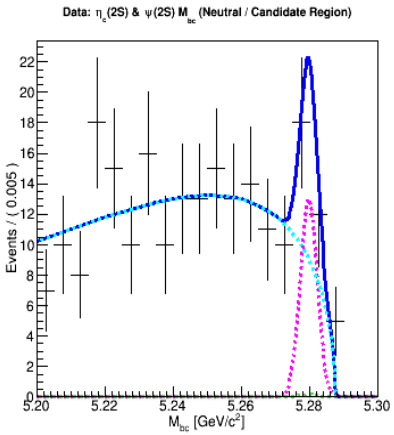


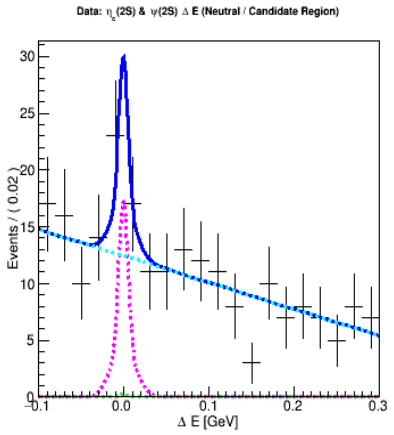


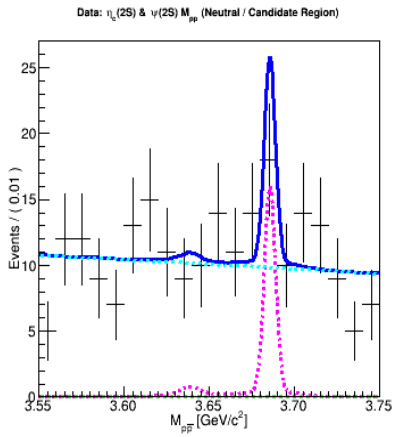
X_{cc}	Yield	Eff.(%)	Significance (σ)	Product BF (10^{-6})	UL (10^{-6}) 90% CL	UL (10^{-6}) 95% CL
η_c(2S)	8 ± 5	20.14	1.81	0.051 ± 0.033	< 0.106	< 0.119
ψ(2S)	27 ± 6	20.63	6.65	0.165 ± 0.037	-	-

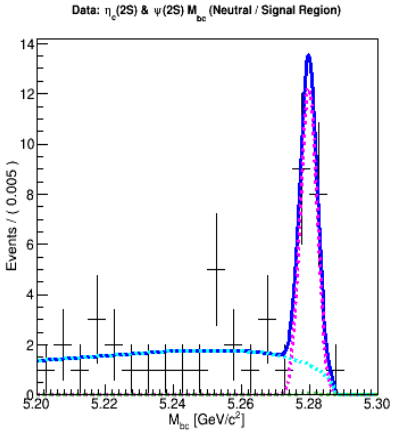
VI. Preliminary Results

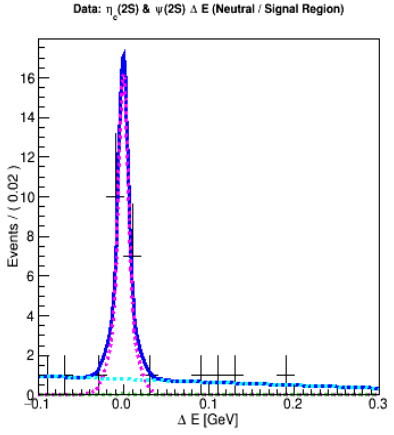
$$B^0 \to \eta_c(2S), \psi(2S) K_S^0 \to p\bar{p}K_S^0$$

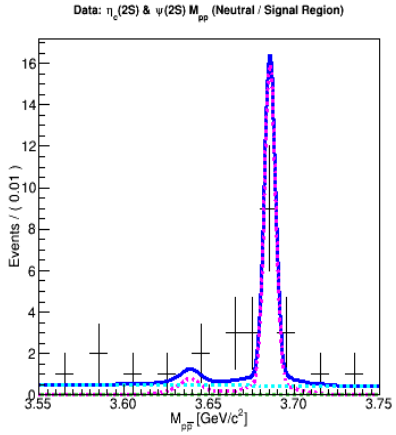






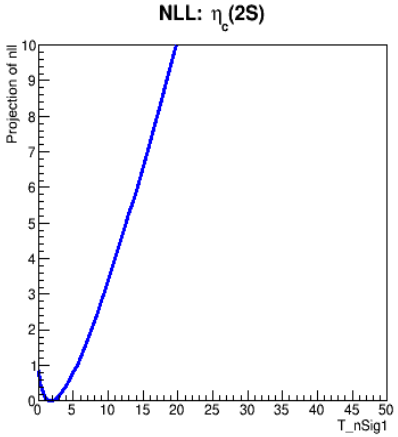


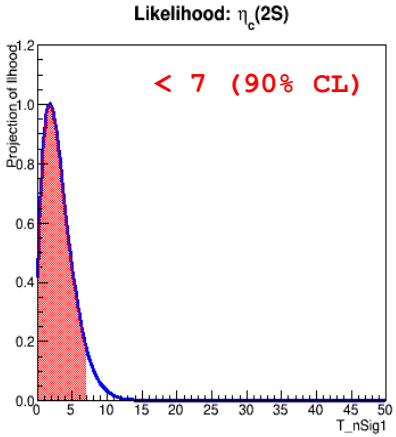


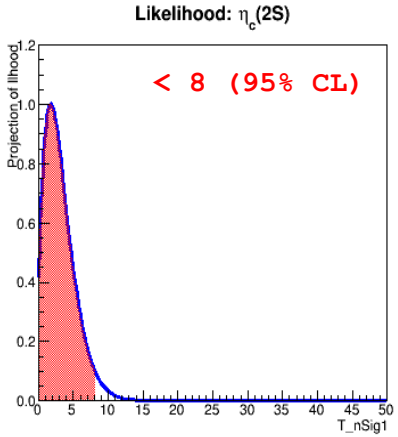


VI. Preliminary Results

$$B^0 \to \eta_c(2S), \psi(2S) K_S^0 \to p\bar{p}K_S^0$$



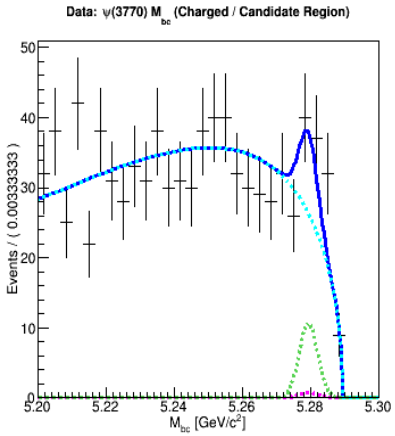


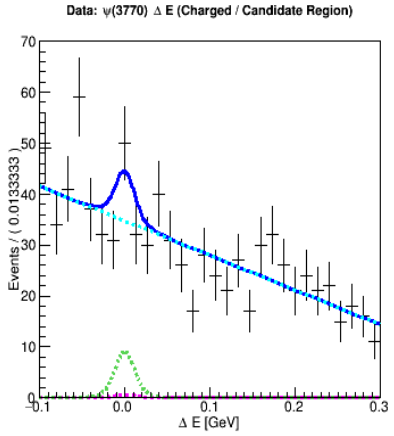


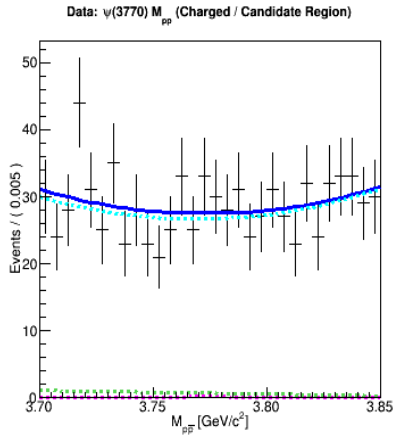
X_{cc}	Yield	Eff.(%)	Significance (σ)	Product BF (10^{-6})	UL (10^{-6}) 90% CL	UL (10^{-6}) 95% CL
η_c(2S)	2 ± 2	13.37	0.92	0.018 ± 0.023	< 0.070	< 0.080
ψ(2S)	14 ± 4	13.25	6.61	0.143 ± 0.041	-	-

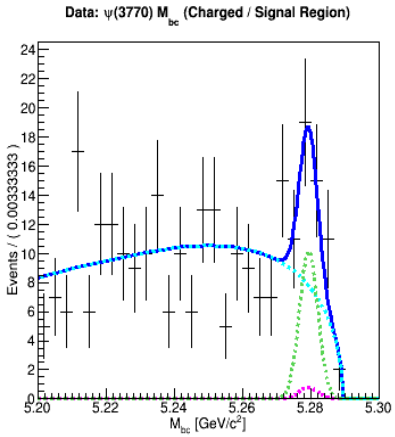
VI. Preliminary Results

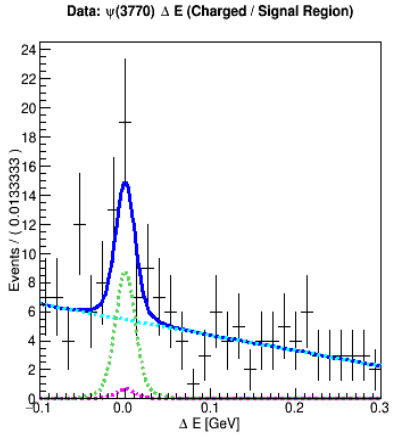
$$B^+ \to \psi(3770) K^+ \to p\bar{p}K^+$$

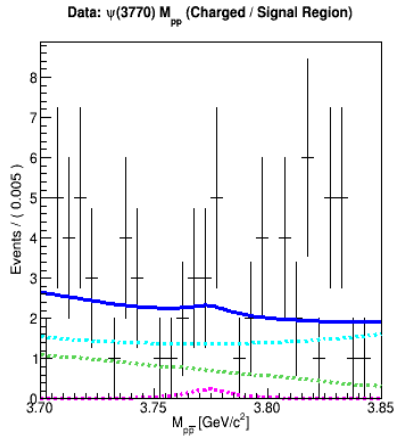






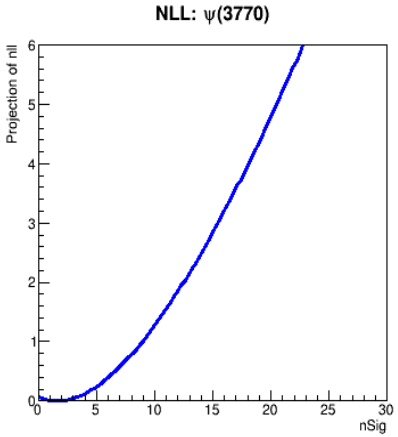


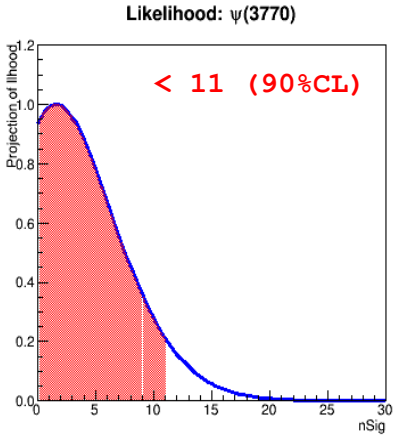


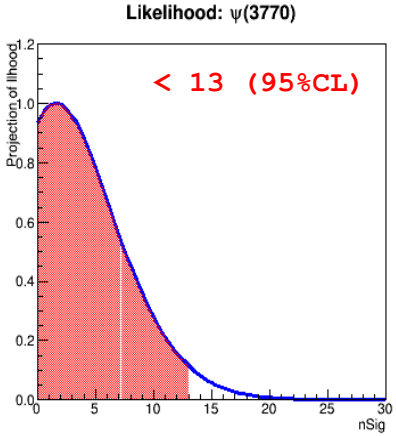


VI. Preliminary Results

$$B^+ \to \psi(3770) K^+ \to p\bar{p}K^+$$



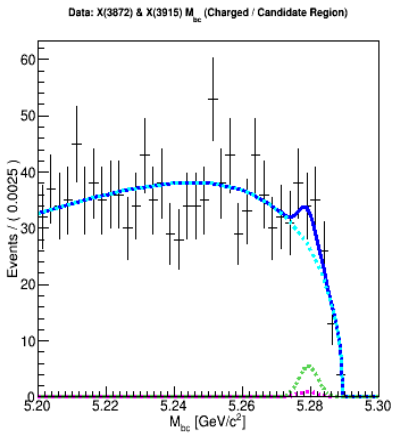


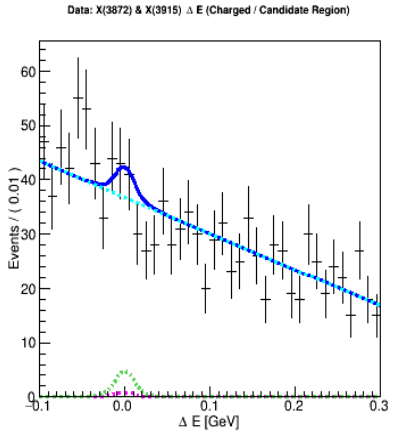


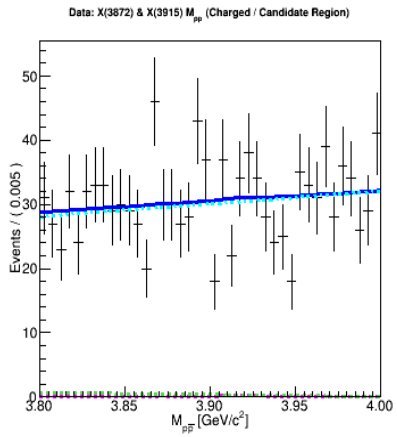
X_{cc}	Yield	Eff.(%)	Significance (σ)	Product BF (10^{-6})	UL (10^{-6}) 90% CL	UL (10^{-6}) 95% CL
ψ(3770)	2 ± 6	19.54	0.29	0.011 ± 0.038?	< 0.073	< 0.086

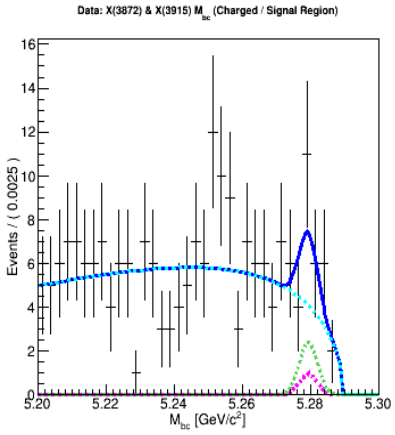
VI. Preliminary Results

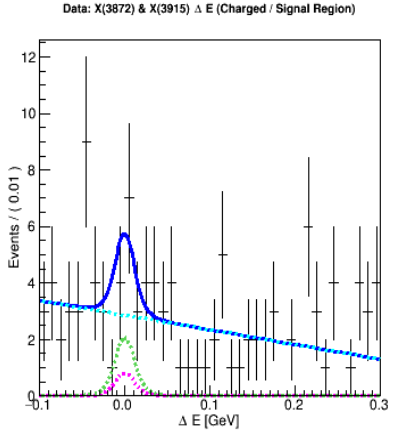
$$B^+ \to X(3872), X(3915) K^+ \to p\bar{p}K^+$$

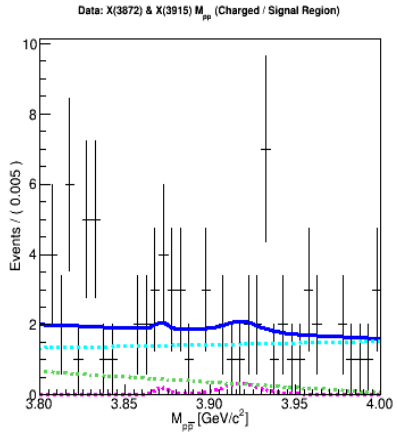






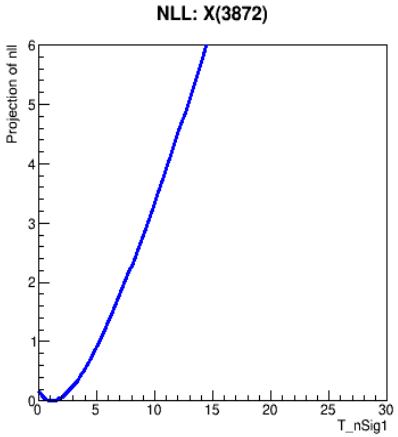


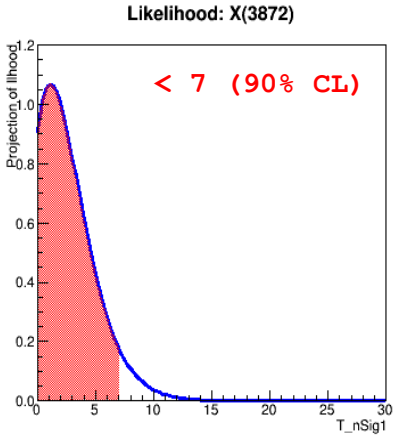


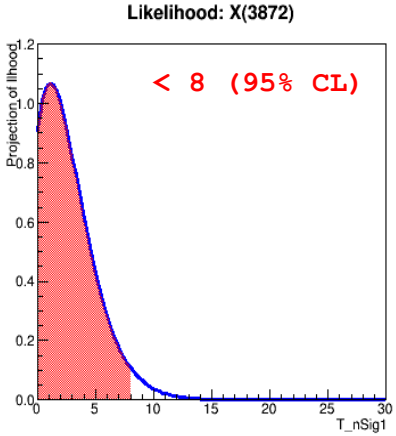


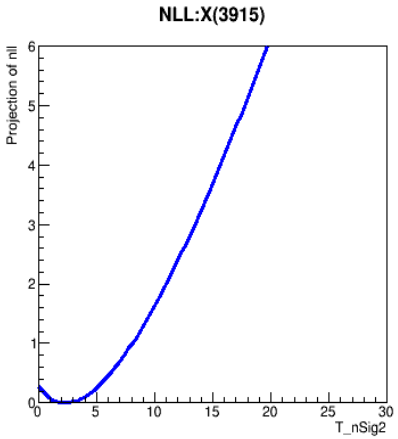
VI. Preliminary Results

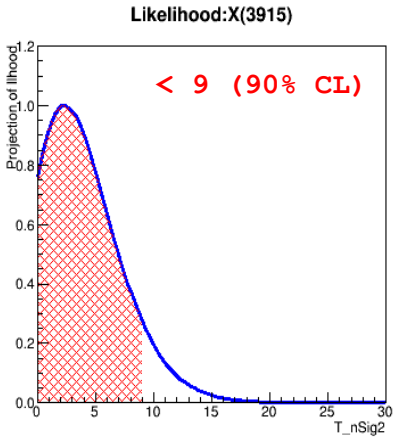
$$B^+ \to X(3872), X(3915) K^+ \to p\bar{p}K^+$$

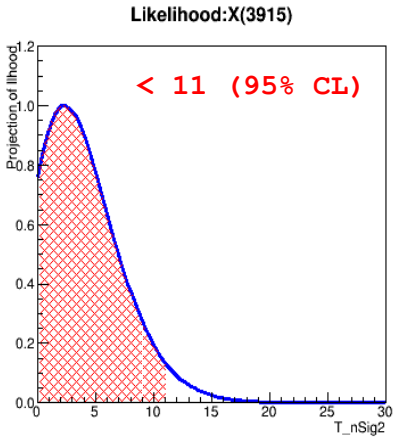








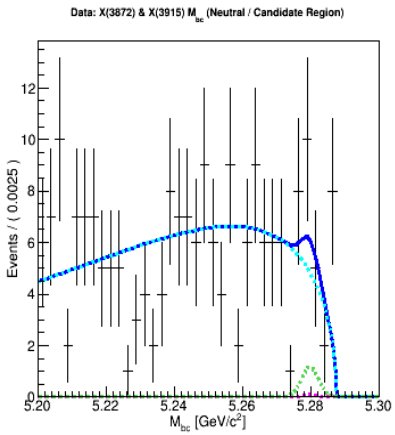


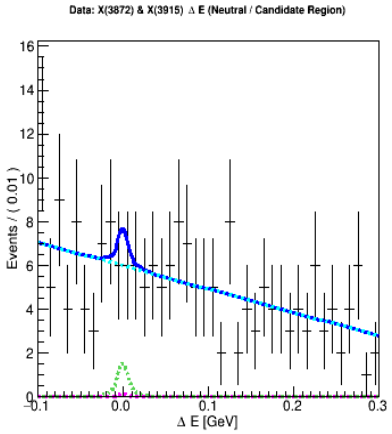


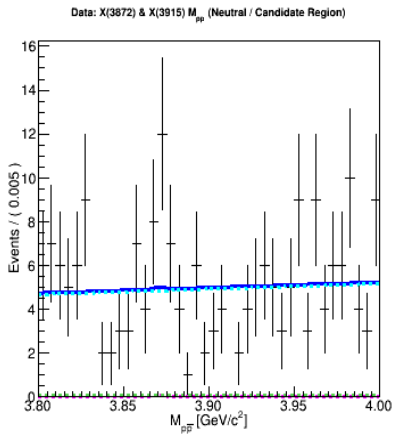
X_{cc}	Yield	Eff.(%)	Significance (σ)	Product BF (10^{-6})	UL (10^{-6}) 90% CL	UL (10^{-6}) 95% CL
X(3872)	0 ± 2	20.47	0.44	0.0024 ± 0.0115	< 0.043	< 0.049
X(3915)	2 ± 4	19.94	0.51	0.0146 ± 0.0255	< 0.057	< 0.069

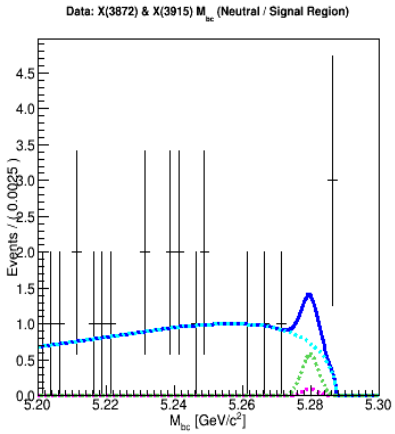
VI. Preliminary Results

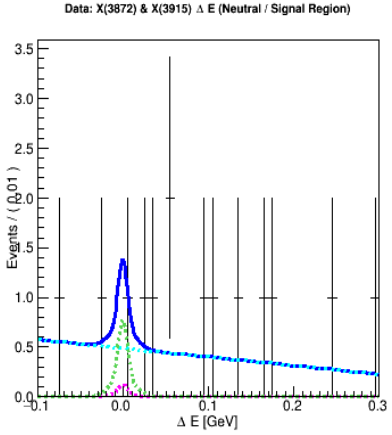
$$B^0 \to X(3872), X(3915) K^0 \to p\bar{p}K^0$$

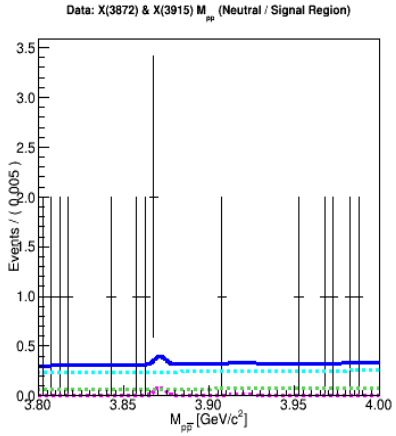












Preliminary Results

statistical error only

B^+ Decay	Yield	Significance (σ)	BF ($\times 10^{-6}$)	UL 90% (95%) CL	PDG 2016 ($\times 10^{-6}$)	LHCb (2013)	LHCb (2017)
$\eta_c(1S)$	327 ± 31	13.45	1.40 ± 0.13	-	1.44 ± 0.23	1.27 ± 0.08	
J/ψ	535 ± 25	35.26	2.20 ± 0.10	-	2.18 ± 0.07		
$\chi_{c0}(1P)$	15 ± 6	3.21	0.097 ± 0.038	-	0.0338 ± 0.0036	0.024 ± 0.021 < 0.062 (95% CL)	
$\eta_c(2S)$	8 ± 5 (< 17)	1.81	0.0515 ± 0.0331	< 0.106 (0.119)	-	< 0.106 (95% CL)	0.0347 ± 0.0076 (6σ)
$\Psi(2S)$	27 ± 6	6.65	0.165 ± 0.037	-	0.180 ± 0.009	0.175 ± 0.027	
$\Psi(3770)$	2 ± 6 (< 11)	0.29	0.0107 ± 0.0376	< 0.073 (0.086)	-		< 0.198 (0.220)
$X(3872)$	0 ± 2 (< 7)	0.44	0.0024 ± 0.0115	< 0.043 (0.049)	-	< 0.017 (95% CL)	< 0.0044 (0.0055)
$X(3915)$	2 ± 4 (< 9)	0.51	0.0146 ± 0.0255	< 0.057 (0.070)	-	< 0.071 (95% CL)	
B^0 Decay	Yield	Significance (σ)	BF ($\times 10^{-6}$)	UL (90% CL)	PDG 2016 ($\times 10^{-6}$)		
$\eta_c(1S)$	89 ± 11	8.93	0.540 ± 0.067	-	0.60 ± 0.11		
J/ψ	150 ± 13	20.15	0.888 ± 0.076	-	0.93 ± 0.04		
$\chi_{c0}(1P)$	on-going				0.0165 ± 0.0031		
$\eta_c(2S)$	2 ± 2 (< 7)	0.92	0.018 ± 0.023	< 0.070 (0.080)	-		
$\Psi(2S)$	14 ± 4	6.61	0.143 ± 0.041	-	0.0835 ± 0.00766		
$\Psi(3770)$	on-going				-		
$X(3872)$	on-going				-		
$X(3915)$	on-going				-		

- The LHCb Collaboration, Eur. phys. J. C 73, 2462 (2013)
- The LHCb Collaboration, Phys. Lett. B 769, 305 (2017)

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