

Table 1: Direct experimental measurements of  $\phi_s^{c\bar{s}s}$ ,  $\Delta\Gamma_s$  and  $\Gamma_s$  using  $B_s^0 \rightarrow J/\psi\phi$ ,  $J/\psi K^+K^-$ ,  $\psi(2S)\phi$ ,  $J/\psi\pi^+\pi^-$  and  $D_s^+D_s^-$  decays. The first error is due to statistics, the second one to systematics. The last (last but one) line gives our averages, where the  $\Delta\Gamma_s$  uncertainties have been multiplied by 1.78 (1.72) to account for inconsistencies between the  $B_s^0 \rightarrow J/\psi\phi$  measurements. Only solution (a) of Ref. [1] is used.

Exp.	Mode	Dataset	$\phi_s^{c\bar{s}s}$	$\Delta\Gamma_s$ (ps $^{-1}$ )	Ref.
CDF	$J/\psi\phi$	9.6 fb $^{-1}$	[−0.60, +0.12], 68% CL	+0.068 ± 0.026 ± 0.009	[2]
D0	$J/\psi\phi$	8.0 fb $^{-1}$	−0.55 $^{+0.38}_{-0.36}$	+0.163 $^{+0.065}_{-0.064}$	[3]
ATLAS	$J/\psi\phi$	4.9 fb $^{-1}$	+0.12 ± 0.25 ± 0.05	+0.053 ± 0.021 ± 0.010	[4]
ATLAS	$J/\psi\phi$	14.3 fb $^{-1}$	−0.110 ± 0.082 ± 0.042	+0.101 ± 0.013 ± 0.007	[5]
ATLAS	$J/\psi\phi$	80.5 fb $^{-1}$	−0.081 ± 0.041 ± 0.022	+0.0607 ± 0.0047 ± 0.0043	[1]
ATLAS	above 3 combined		−0.087 ± 0.036 ± 0.021	+0.0657 ± 0.0043 ± 0.0037	[1]
CMS	$J/\psi\phi$	19.7 fb $^{-1}$	−0.075 ± 0.097 ± 0.031	+0.095 ± 0.013 ± 0.007	[6]
CMS	$J/\psi\phi$	96.4 fb $^{-1}$	−0.011 ± 0.050 ± 0.010	+0.114 ± 0.0014 ± 0.0007	[7]
CMS	above 2 combined		−0.021 ± 0.044 ± 0.010	+0.1032 ± 0.0095 ± 0.0048	[7]
LHCb	$J/\psi\phi$	3.0 fb $^{-1}$	−0.058 ± 0.049 ± 0.006	+0.0805 ± 0.0091 ± 0.0032	[8]
LHCb	$J/\psi\pi^+\pi^-$	3.0 fb $^{-1}$	+0.070 ± 0.068 ± 0.008	—	[9]
LHCb	$J/\psi K^+K^-$ <sup>a</sup>	3.0 fb $^{-1}$	+0.119 ± 0.107 ± 0.034	+0.066 ± 0.018 ± 0.010	[10]
LHCb	$\psi(2S)\phi$	3.0 fb $^{-1}$	+0.23 $^{+0.29}_{-0.28}$ ± 0.02	+0.066 $^{+0.41}_{-0.44}$ ± 0.007	[11]
LHCb	$D_s^+D_s^-$	3.0 fb $^{-1}$	+0.02 ± 0.17 ± 0.02	—	[12]
LHCb	$J/\psi\pi^+\pi^-$	1.9 fb $^{-1}$ <sup>b</sup>	−0.057 ± 0.060 ± 0.011	—	[?]
LHCb	$J/\psi\phi$	1.9 fb $^{-1}$ <sup>b</sup>	−0.083 ± 0.041 ± 0.006	+0.077 ± 0.008 ± 0.003	[13]
LHCb	above 7 combined		−0.042 ± 0.025	+0.0813 ± 0.0048	[13]
LHCb	$J/\psi\phi$ <sup>c</sup>	3.0 fb $^{-1}$	+0.00 ± 0.28 ± 0.07	+0.115 ± 0.045 ± 0.011	[14]
$B_s^0 \rightarrow J/\psi\phi$ combined			−0.070 ± 0.022	+0.074 ± 0.006	
All combined			−0.049 ± 0.019	+0.077 ± 0.006	

<sup>a</sup>  $m(K^+K^-) > 1.05$  GeV/c $^2$

<sup>b</sup> Run 2

<sup>c</sup>  $J/\psi \rightarrow e^+e^-$

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