

Table 1: Direct experimental measurements of  $\phi_s^{c\bar{c}s}$ ,  $\Delta\Gamma_s$  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 line gives our average, where the  $\Delta\Gamma_s$  uncertainties have been multiplied by 1.77 to account for inconsistencies between the measurements. Only solution (a) of Ref. [1] is used.

Exp.	Mode	Dataset	$\phi_s^{c\bar{c}s}$	$\Delta\Gamma_s$ (ps <sup>-1</sup> )	Ref.
CDF	$J/\psi\phi$	9.6 fb <sup>-1</sup>	[-0.60, +0.12], 68% CL	+0.068 ± 0.026 ± 0.009	[2]
D0	$J/\psi\phi$	8.0 fb <sup>-1</sup>	-0.55 <sup>+0.38</sup> <sub>-0.36</sub>	+0.163 <sup>+0.065</sup> <sub>-0.064</sub>	[3]
ATLAS	$J/\psi\phi$	4.9 fb <sup>-1</sup>	+0.12 ± 0.25 ± 0.05	+0.053 ± 0.021 ± 0.010	[4]
ATLAS	$J/\psi\phi$	14.3 fb <sup>-1</sup>	-0.110 ± 0.082 ± 0.042	+0.101 ± 0.013 ± 0.007	[5]
ATLAS	$J/\psi\phi$	80.5 fb <sup>-1</sup>	-0.081 ± 0.041 ± 0.022	+0.0607 ± 0.0047 ± 0.0043	[1]
ATLAS	above 3 combined (99.7 fb <sup>-1</sup> )		-0.087 ± 0.036 ± 0.021	+0.0657 ± 0.0043 ± 0.0037	[1]
CMS	$J/\psi\phi$	19.7 fb <sup>-1</sup>	-0.075 ± 0.097 ± 0.031	+0.095 ± 0.013 ± 0.007	[6]
CMS	$J/\psi\phi$	96.4 fb <sup>-1</sup>	-0.011 ± 0.050 ± 0.010	+0.114 ± 0.0014 ± 0.0007	[7]
CMS	above 2 combined (116.1 fb <sup>-1</sup> )		-0.021 ± 0.044 ± 0.010	+0.1032 ± 0.0095 ± 0.0048	[7]
LHCb	$J/\psi K^+K^-$	3.0 fb <sup>-1</sup>	-0.058 ± 0.049 ± 0.006	+0.0805 ± 0.0091 ± 0.0032	[8]
LHCb	$J/\psi\pi^+\pi^-$	3.0 fb <sup>-1</sup>	+0.070 ± 0.068 ± 0.008	—	[9]
LHCb	$J/\psi K^+K^-$ <sup>a</sup>	3.0 fb <sup>-1</sup>	+0.119 ± 0.107 ± 0.034	+0.066 ± 0.018 ± 0.010	[10]
LHCb	$\psi(2S)\phi$	3.0 fb <sup>-1</sup>	+0.23 <sup>+0.29</sup> <sub>-0.28</sub> ± 0.02	+0.066 <sup>+0.41</sup> <sub>-0.44</sub> ± 0.007	[11]
LHCb	$D_s^+D_s^-$	3.0 fb <sup>-1</sup>	+0.02 ± 0.17 ± 0.02	—	[12]
LHCb	$J/\psi\pi^+\pi^-$	1.9 fb <sup>-1</sup> <sup>b</sup>	-0.057 ± 0.060 ± 0.011	—	[13]
LHCb	$J/\psi K^+K^-$	1.9 fb <sup>-1</sup> <sup>b</sup>	-0.083 ± 0.041 ± 0.006	+0.077 ± 0.008 ± 0.003	[14]
LHCb	above 7 combined		-0.042 ± 0.025(tot)	+0.0813 ± 0.0048(tot)	[14]
All combined			-0.050 ± 0.019	+0.082 ± 0.005	

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

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