

Table 1: Direct experimental measurements of $\phi_s^{c\bar{c}s}$, $\Delta\Gamma_s$ and Γ_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. Only the solution with $\Delta\Gamma_s > 0$ is shown, since the two-fold ambiguity has been resolved in Ref. [1]. The first error is due to statistics, the second one to systematics. The last line gives our average.

| Exp. | Mode | Dataset | $\phi_s^{c\bar{c}s}$ | $\Delta\Gamma_s$ (ps ⁻¹) | Ref. |
|--------------|--------------------|-----------------------|----------------------------------|--------------------------------------|------|
| CDF | $J/\psi\phi$ | 9.6 fb ⁻¹ | $[-0.60, +0.12]$, 68% CL | $+0.068 \pm 0.026 \pm 0.009$ | [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 | $+0.12 \pm 0.25 \pm 0.05$ | $+0.053 \pm 0.021 \pm 0.010$ | [4] |
| ATLAS | $J/\psi\phi$ | 14.3 fb ⁻¹ | $-0.110 \pm 0.082 \pm 0.042$ | $+0.101 \pm 0.013 \pm 0.007$ | [5] |
| ATLAS | above 2 combined | | $-0.090 \pm 0.078 \pm 0.041$ | $+0.085 \pm 0.011 \pm 0.007$ | [5] |
| CMS | $J/\psi\phi$ | 19.7 fb ⁻¹ | $-0.075 \pm 0.097 \pm 0.031$ | $+0.095 \pm 0.013 \pm 0.007$ | [6] |
| LHCb | $J/\psi K^+K^-$ | 3.0 fb ⁻¹ | $-0.058 \pm 0.049 \pm 0.006$ | $+0.0805 \pm 0.0091 \pm 0.0032$ | [7] |
| LHCb | $J/\psi\pi^+\pi^-$ | 3.0 fb ⁻¹ | $+0.070 \pm 0.068 \pm 0.008$ | — | [8] |
| LHCb | $J/\psi K^+K^-^a$ | 3.0 fb ⁻¹ | $+0.119 \pm 0.107 \pm 0.034$ | $+0.066 \pm 0.018 \pm 0.010$ | [9] |
| LHCb | above 3 combined | | $+0.001 \pm 0.037(\text{tot})$ | $+0.0813 \pm 0.0073 \pm 0.0036$ | [9] |
| LHCb | $\psi(2S)\phi$ | 3.0 fb ⁻¹ | $+0.23^{+0.29}_{-0.28} \pm 0.02$ | $+0.066^{+0.41}_{-0.44} \pm 0.007$ | [10] |
| LHCb | $D_s^+D_s^-$ | 3.0 fb ⁻¹ | $+0.02 \pm 0.17 \pm 0.02$ | — | [11] |
| All combined | | | -0.021 ± 0.031 | $+0.085 \pm 0.006$ | |

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

References

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