Table 1: Direct experimental measurements of $\phi_s^{c\bar{c}s}$ and, wherever applicable, $\Delta\Gamma_s$ using $J/\psi K^+K^-$, $\psi(2S)K^+K^-$, $J/\psi\pi^+\pi^-$ 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 1.60 (1.51) to account for inconsistencies between the $B_s^0 \to J/\psi K^+K^-$ measurements. Only solution (a) of Ref. [1] is used.

| Exp. | Mode | Dataset | $\phi_s^{c\bar{c}s}$ (rad) | $\Delta\Gamma_s$ ($\mathrm{ps}^{-1}$) | Ref. |
|---|---|---|---|---|---|
| CDF | $J/\psi K^+K^-$ | $9.6\,\mathrm{fb}^{-1}$ | $[-0.60, +0.12]$, 68% C.L. | $+0.068 \pm 0.026 \pm 0.009$ | [2] |
| D0 | $J/\psi K^+K^-$ | $8.0\,\mathrm{fb}^{-1}$ | $-0.55^{+0.38}_{-0.36}$ | $+0.163^{+0.065}_{-0.064}$ | [3] |
| ATLAS | $J/\psi K^+K^-$ | $4.9\,\mathrm{fb}^{-1}$ | $+0.12 \pm 0.25 \pm 0.05$ | $+0.053 \pm 0.021 \pm 0.010$ | [4] |
| ATLAS | $J/\psi K^+K^-$ | $14.3\,\mathrm{fb}^{-1}$ | $-0.110 \pm 0.082 \pm 0.042$ | $+0.101 \pm 0.013 \pm 0.007$ | [5] |
| ATLAS | $J/\psi K^+K^-$ | $80.5\,\mathrm{fb}^{-1}$ | $-0.081 \pm 0.041 \pm 0.022$ | $+0.0607 \pm 0.0047 \pm 0.0043$ | [1] |
| ATLAS | above 3 combined | | $-0.087 \pm 0.036 \pm 0.021$ | $+0.0657 \pm 0.0043 \pm 0.0037$ | [1] |
| CMS | $J/\psi K^+K^-$ | $19.7\,\mathrm{fb}^{-1}$ | $-0.075 \pm 0.097 \pm 0.031$ | $+0.095 \pm 0.013 \pm 0.007$ | [6] |
| CMS | $J/\psi K^+K^-$ | $96.5\,\mathrm{fb}^{-1}$ | $-0.073 \pm 0.023 \pm 0.007$ | $+0.0761 \pm 0.0043 \pm 0.0019$ | [7] |
| CMS | above 2 combined | | $-0.074 \pm 0.023$ | $+0.078 \pm 0.004$ | |
| LHCb | $J/\psi K^+K^-$ | $3.0\,\mathrm{fb}^{-1}$ | $-0.058 \pm 0.049 \pm 0.006$ | $+0.0805 \pm 0.0091 \pm 0.0032$ | [8] |
| LHCb | $J/\psi\pi^+\pi^-$ | $3.0\,\mathrm{fb}^{-1}$ | $+0.070 \pm 0.068 \pm 0.008$ | — | [9] |
| LHCb | $J/\psi K^+K^-$ [a] | $3.0\,\mathrm{fb}^{-1}$ | $+0.119 \pm 0.107 \pm 0.034$ | $+0.066 \pm 0.018 \pm 0.010$ | [10] |
| LHCb | $\psi(2S)K^+K^-$ | $3.0\,\mathrm{fb}^{-1}$ | $+0.23^{+0.29}_{-0.28} \pm 0.02$ | $+0.066^{+0.41}_{-0.44} \pm 0.007$ | [11] |
| LHCb | $D_s^+D_s^-$ | $3.0\,\mathrm{fb}^{-1}$ | $+0.02 \pm 0.17 \pm 0.02$ | — | [12] |
| LHCb | $D_s^+D_s^-$ | $6.0\,\mathrm{fb}^{-1}$ | $-0.09 \pm 0.11 \pm 0.03$ | — | [13] |
| LHCb | $J/\psi\pi^+\pi^-$ | $1.9\,\mathrm{fb}^{-1}$ [b] | $-0.057 \pm 0.060 \pm 0.011$ | — | [14] |
| LHCb | $J/\psi K^+K^-$ | $6\,\mathrm{fb}^{-1}$ [b] | $-0.039 \pm 0.022 \pm 0.006$ | $+0.0845 \pm 0.0044 \pm 0.0024$ | [15] |
| LHCb | $J/\psi K^+K^-$ [c] | $3.0\,\mathrm{fb}^{-1}$ | $+0.00 \pm 0.28 \pm 0.07$ | $+0.115 \pm 0.045 \pm 0.011$ | [16] |
| LHCb | above 9 combined | | $-0.033 \pm 0.018$ | $+0.085 \pm 0.004$ | |
| $B_s^0 \to J/\psi K^+K^-$ combined | | | $-0.060 \pm 0.014$ | $+0.074 \pm 0.004$ | |
| All combined | | | $-0.052 \pm 0.013$ | $+0.076 \pm 0.004$ | |

[a] $m(K^+K^-) > 1.05$ GeV/$c^2$ [b] Run 2 [c] $J/\psi \to e^+e^-$

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