

Supplemental material

The ratio of B_s^0 to B^0 cross-sections $\sigma_{B_s^0}/\sigma_{B^0}$ versus the number of VELO tracks and number of backward VELO tracks are given in Table 1 and Table 2, respectively, for the transverse momentum range $0 < p_T < 20 \text{ GeV}/c$. Tables 3, 4, and 5 give the ratio versus the number of VELO tracks over the transverse momentum ranges $0 < p_T < 6 \text{ GeV}/c$, $6 < p_T < 12 \text{ GeV}/c$, and $12 < p_T < 20 \text{ GeV}/c$, respectively.

Table 1: Ratio of cross-sections $\sigma_{B_s^0}/\sigma_{B^0}$ in the range $0 < p_T < 20 \text{ GeV}/c$ versus $N_{\text{tracks}}^{\text{VELO}}$.

$N_{\text{tracks}}^{\text{VELO}}$	$\sigma_{B_s^0}/\sigma_{B^0}$	Uncorrelated uncertainty	Correlated uncertainty
5-20	0.23	0.06	0.02
21-30	0.29	0.05	0.03
31-40	0.24	0.03	0.02
41-50	0.27	0.03	0.02
51-60	0.29	0.03	0.03
61-70	0.29	0.03	0.03
71-80	0.32	0.03	0.03
81-100	0.31	0.03	0.03
101-125	0.33	0.03	0.03
126-150	0.36	0.06	0.03
151-250	0.35	0.10	0.03

Table 2: Ratio of cross-sections $\sigma_{B_s^0}/\sigma_{B^0}$ in the range $0 < p_T < 20 \text{ GeV}/c$ versus $N_{\text{tracks}}^{\text{back}}$.

$N_{\text{tracks}}^{\text{back}}$	$\sigma_{B_s^0}/\sigma_{B^0}$	Uncorrelated uncertainty	Correlated uncertainty
1-10	0.27	0.02	0.02
11-15	0.29	0.02	0.03
16-20	0.33	0.03	0.03
21-25	0.29	0.03	0.03
26-30	0.29	0.03	0.03
31-40	0.32	0.03	0.03
41-60	0.30	0.04	0.03

Table 3: Ratio of cross-sections $\sigma_{B_s^0}/\sigma_{B^0}$ in the range $0 < p_T < 6$ GeV/ c versus $N_{\text{tracks}}^{\text{VELO}}$.

$N_{\text{tracks}}^{\text{VELO}}$	$\sigma_{B_s^0}/\sigma_{B^0}$	Uncorrelated uncertainty	Correlated uncertainty
5-20	0.18	0.06	0.02
21-30	0.27	0.06	0.02
31-40	0.24	0.04	0.02
41-50	0.24	0.04	0.02
51-60	0.31	0.05	0.03
61-70	0.29	0.05	0.03
71-80	0.45	0.09	0.04
81-100	0.35	0.05	0.03
101-125	0.38	0.07	0.03
126-150	0.45	0.15	0.04
151-250	0.47	0.31	0.04

Table 4: Ratio of cross-sections $\sigma_{B_s^0}/\sigma_{B^0}$ in the range $6 < p_T < 12$ GeV/ c versus $N_{\text{tracks}}^{\text{VELO}}$.

$N_{\text{tracks}}^{\text{VELO}}$	$\sigma_{B_s^0}/\sigma_{B^0}$	Uncorrelated uncertainty	Correlated uncertainty
5-20	0.26	0.11	0.02
21-30	0.28	0.07	0.02
31-40	0.25	0.04	0.02
41-50	0.33	0.05	0.03
51-60	0.27	0.04	0.02
61-70	0.35	0.05	0.03
71-80	0.25	0.03	0.02
81-90	0.28	0.03	0.02
101-125	0.30	0.04	0.03
126-150	0.34	0.07	0.03
151-250	0.20	0.08	0.02

Table 5: Ratio of cross-sections $\sigma_{B_s^0}/\sigma_{B^0}$ in the range $12 < p_T < 20$ GeV/ c versus $N_{\text{tracks}}^{\text{VELO}}$.

$N_{\text{tracks}}^{\text{VELO}}$	$\sigma_{B_s^0}/\sigma_{B^0}$	Uncorrelated uncertainty	Correlated uncertainty
5-30	0.40	0.23	0.04
31-50	0.20	0.04	0.02
51-70	0.20	0.03	0.02
71-90	0.31	0.06	0.03
91-125	0.27	0.06	0.03
126-250	0.30	0.11	0.03