

Heavy Flavor Averaging Group - B^+ Polarization Measurements - December 2011

Measurements of the longitudinal polarization fraction f_L
 In PDG2010 New since PDG2010 (preliminary) New since PDG2010 (published)

RPP#	Mode	PDG2010 Avg.	BABAR	Belle	New Avg.
237	ωK^{*+}	$0.41 \pm 0.18 \pm 0.05$	$0.41 \pm 0.18 \pm 0.05$		0.41 ± 0.19
240	$\omega K_2^*(1430)^+$	$0.56 \pm 0.10 \pm 0.04$	$0.56 \pm 0.10 \pm 0.04$		0.56 ± 0.11
267	$K^{*+}\rho^0$		$0.78 \pm 0.12 \pm 0.03$		0.78 ± 0.12
271	$K^{*0}\rho^+$	0.48 ± 0.08	$0.52 \pm 0.10 \pm 0.04$	$0.43 \pm 0.11^{+0.05}_{-0.02}$	0.48 ± 0.08
289	$K^{*+}\bar{K}^{*0}$	$0.75^{+0.16}_{-0.26} \pm 0.03$	$0.75^{+0.16}_{-0.26} \pm 0.03$		$0.75^{+0.16}_{-0.26}$
301	ϕK^{*+}	0.50 ± 0.05	$0.49 \pm 0.05 \pm 0.03$	$0.52 \pm 0.08 \pm 0.03$	0.50 ± 0.05
303	$\phi K_1(1270)^+$	$0.46^{+0.12+0.06}_{-0.13-0.07}$	$0.46^{+0.12+0.06}_{-0.13-0.07}$		$0.46^{+0.13}_{-0.15}$
307	$\phi K_2^*(1430)^+$	$0.80^{+0.09}_{-0.10} \pm 0.03$	$0.80^{+0.09}_{-0.10} \pm 0.03$		0.80 ± 0.10
342	$\rho^+\rho^0$	0.950 ± 0.016	$0.950 \pm 0.015 \pm 0.006$	$0.95 \pm 0.11 \pm 0.02$	0.950 ± 0.016
347	$\omega\rho^+$	$0.90 \pm 0.05 \pm 0.03$	$0.90 \pm 0.05 \pm 0.03$		0.90 ± 0.06

Heavy Flavor Averaging Group - B^+ Polarization Measurements - December 2011
 Full angular analysis of $B^+ \rightarrow \phi K^{*+}$

In PDG2010 New since PDG2010 (preliminary) New since PDG2010 (published)

Parameter	PDG2010 Avg.	BABAR	Belle	New Avg.
$f_\perp = \Lambda_{\perp\perp}$	0.20 ± 0.05	$0.21 \pm 0.05 \pm 0.02$	$0.19 \pm 0.08 \pm 0.02$	0.20 ± 0.05
ϕ_{\parallel}	2.34 ± 0.18	$2.47 \pm 0.20 \pm 0.07$	$2.10 \pm 0.28 \pm 0.04$	2.34 ± 0.17
ϕ_\perp	2.58 ± 0.17	$2.69 \pm 0.20 \pm 0.03$	$2.31 \pm 0.30 \pm 0.07$	2.58 ± 0.17
δ_0	$3.07 \pm 0.18 \pm 0.06$	$3.07 \pm 0.18 \pm 0.06$		3.07 ± 0.19
A_{CP}^0	$0.17 \pm 0.11 \pm 0.02$	$0.17 \pm 0.11 \pm 0.02$		0.17 ± 0.11
A_{CP}^\perp	$0.22 \pm 0.24 \pm 0.08$	$0.22 \pm 0.24 \pm 0.08$		0.22 ± 0.25
$\Delta\phi_{\parallel}$	$0.07 \pm 0.20 \pm 0.05$	$0.07 \pm 0.20 \pm 0.05$		0.07 ± 0.21
$\Delta\phi_\perp$	$0.19 \pm 0.20 \pm 0.07$	$0.19 \pm 0.20 \pm 0.07$		0.19 ± 0.21
$\Delta\delta_0$	$0.20 \pm 0.18 \pm 0.03$	$0.20 \pm 0.18 \pm 0.03$		0.20 ± 0.18

BR, f_L and A_{CP} are tabulated separately.

Heavy Flavor Averaging Group - B^0 Polarization Measurements - December 2011

Measurements of the longitudinal polarization fraction f_L

In PDG2010 New since PDG2010 (preliminary) New since PDG2010 (published)

RPP#	Mode	PDG2010 Avg.	BABAR	Belle	New Avg.
227	ωK^{*0}	0.69 ± 0.13	$0.72 \pm 0.14 \pm 0.02$	$0.56 \pm 0.29^{+0.18}_{-0.08}$	0.70 ± 0.13
230	$\omega K_2^*(1430)^0$	$0.45 \pm 0.12 \pm 0.02$	$0.45 \pm 0.12 \pm 0.02$		0.45 ± 0.12
260	$K^{*0} \rho^0$	$0.57 \pm 0.09 \pm 0.08$	$0.40 \pm 0.08 \pm 0.11$		0.40 ± 0.14
265	$K^{*+} \rho^-$	New	$0.38 \pm 0.13 \pm 0.03$		0.38 ± 0.13
280	ϕK^{*0}	0.480 ± 0.0030	$0.494 \pm 0.034 \pm 0.013$	$0.45 \pm 0.05 \pm 0.02$	0.480 ± 0.030
282	$K^{*0} \bar{K}^{*0}$	$0.80^{+0.10}_{-0.12} \pm 0.06$	$0.80^{+0.10}_{-0.12} \pm 0.06$		$0.80^{+0.12}_{-0.13}$
294	$\phi K_2^*(1430)^0$	$0.901^{+0.046}_{-0.058} \pm 0.037$	$0.901^{+0.046}_{-0.058} \pm 0.037$		$0.901^{+0.059}_{-0.069}$
345	$\rho^0 \rho^0$	$0.75^{+0.11}_{-0.14} \pm 0.04$	$0.75^{+0.11}_{-0.14} \pm 0.04$		$0.75^{+0.12}_{-0.15}$
353	$\rho^+ \rho^-$	$0.977^{+0.028}_{-0.024}$	$0.992 \pm 0.024^{+0.026}_{-0.013}$	$0.941^{+0.034}_{-0.040} \pm 0.030$	$0.978^{+0.025}_{-0.022}$
364	$a_1^\pm a_1^\mp$	$0.31 \pm 0.22 \pm 0.10$	$0.31 \pm 0.22 \pm 0.10$		0.31 ± 0.24

Heavy Flavor Averaging Group - B^0 Polarization Measurements - December 2011

Full angular analysis of $B^0 \rightarrow \phi K^{*0}$
 In PDG2010 New since PDG2010 (preliminary) New since PDG2010 (published)

Parameter	PDG2010 Avg.	BABAR	Belle	New Avg.
$f_\perp = \Lambda_{\perp\perp}$	0.24 ± 0.05	$0.212 \pm 0.032 \pm 0.013$	$0.31^{+0.06}_{-0.05} \pm 0.02$	0.241 ± 0.029
ϕ_{\parallel}	2.40 ± 0.13	$2.40 \pm 0.13 \pm 0.08$	$2.40^{+0.28}_{-0.24} \pm 0.07$	$2.40^{+0.14}_{-0.13}$
ϕ_{\perp}	2.39 ± 0.13	$2.35 \pm 0.13 \pm 0.09$	$2.51 \pm 0.25 \pm 0.06$	2.39 ± 0.13
δ_0	$2.82 \pm 0.15 \pm 0.09$	$2.82 \pm 0.15 \pm 0.09$		2.82 ± 0.17
A_{CP}^0	0.04 ± 0.06	$0.01 \pm 0.07 \pm 0.02$	$0.13 \pm 0.12 \pm 0.04$	0.04 ± 0.06
A_{CP}^{\perp}	-0.11 ± 0.12	$-0.04 \pm 0.15 \pm 0.06$	$-0.20 \pm 0.18 \pm 0.04$	-0.11 ± 0.12
$\Delta\phi_{\parallel}$	0.11 ± 0.22	$0.22 \pm 0.12 \pm 0.08$	$-0.32 \pm 0.27 \pm 0.07$	0.11 ± 0.13
$\Delta\phi_{\perp}$	0.08 ± 0.22	$0.21 \pm 0.13 \pm 0.08$	$-0.30 \pm 0.25 \pm 0.06$	0.08 ± 0.13
$\Delta\delta_0$	$0.27 \pm 0.14 \pm 0.08$	$0.27 \pm 0.14 \pm 0.08$		0.27 ± 0.16

BR, f_L and A_{CP} are tabulated separately.

Full angular analysis of $B^0 \rightarrow \phi K_2^{*0}(1430)$
 In PDG2010 New since PDG2010 (preliminary) New since PDG2010 (published)

Parameter	PDG2010 Avg.	BABAR	Belle	New Avg.
$f_\perp = \Lambda_{\perp\perp}$	$0.002^{+0.018}_{-0.002} \pm 0.031$	$0.002^{+0.018}_{-0.002} \pm 0.031$		$0.002^{+0.036}_{-0.031}$
ϕ_{\parallel}	$3.96 \pm 0.38 \pm 0.06$	$3.96 \pm 0.38 \pm 0.06$		3.96 ± 0.39
δ_0	$3.41 \pm 0.13 \pm 0.13$	$3.41 \pm 0.13 \pm 0.13$		3.41 ± 0.18
A_{CP}^0	$-0.05 \pm 0.06 \pm 0.01$	$-0.05 \pm 0.06 \pm 0.01$		-0.05 ± 0.06
$\Delta\phi_{\parallel}$	$-1.00 \pm 0.38 \pm 0.09$	$-1.00 \pm 0.38 \pm 0.09$		-1.00 ± 0.39
$\Delta\delta_0$	$0.11 \pm 0.13 \pm 0.06$	$0.11 \pm 0.13 \pm 0.06$		0.11 ± 0.14

BR, f_L and A_{CP} are tabulated separately.

Heavy Flavor Averaging Group - B_s Polarization Measurements - December 2011

Measurements of the longitudinal polarization fraction f_L

In PDG2010 New since PDG2010 (preliminary) New since PDG2010 (published)

RPP#	Mode	PDG2010 Avg.	CDF	LHCb	New Avg.
21	$\phi\phi$	New	$0.348 \pm 0.041 \pm 0.021$		0.348 ± 0.046
25	$K^{*0}\bar{K}^{*0}$	New		$0.38 \pm 0.11 \pm 0.04$	0.38 ± 0.12

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