

Heavy Flavor Averaging Group - B^+ Polarization Measurements - April 2009

Measurements of the longitudinal polarization fraction f_L
 In PDG2008 **New since PDG2008 (preliminary)** **New since PDG2008 (published)**

RPP#	Mode	PDG2008 Avg.	BABAR	Belle	New Avg.
216	ωK^{*+}	New	$0.41 \pm 0.18 \pm 0.05$		0.41 ± 0.19
–	$\omega K_2^*(1430)^+$	New	$0.56 \pm 0.10 \pm 0.04$		0.56 ± 0.11
243	$K^{*0} \rho^+$	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
244	$K^{*+} \bar{K}^{*0}$	New	$0.75^{+0.16}_{-0.26} \pm 0.03$		$0.75^{+0.16}_{-0.26}$
271	ϕK^{*+}	0.50 ± 0.07	$0.49 \pm 0.05 \pm 0.03$	$0.52 \pm 0.08 \pm 0.03$	0.50 ± 0.05
–	$\phi K_1^+(1270)$	New	$0.46^{+0.12+0.06}_{-0.13-0.07}$		$0.46^{+0.13}_{-0.15}$
273	$\phi K_2^*(1430)^+$	New	$0.80^{+0.09}_{-0.10} \pm 0.03$		0.80 ± 0.10
304	$\rho^+ \rho^0$	0.91 ± 0.04	$0.950 \pm 0.015 \pm 0.006$	$0.95 \pm 0.11 \pm 0.02$	0.950 ± 0.016
310	$\omega \rho^+$	$0.82 \pm 0.11 \pm 0.02$	$0.90 \pm 0.05 \pm 0.03$		0.90 ± 0.06

Heavy Flavor Averaging Group - B^+ Polarization Measurements - April 2009
 Full angular analysis of $B^+ \rightarrow \phi K^{*+}$

In PDG2008 [New since PDG2008 \(preliminary\)](#) [New since PDG2008 \(published\)](#)

Parameter	PDG2008 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 ± 0.19	$3.07 \pm 0.18 \pm 0.06$		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 ± 0.18	$0.20 \pm 0.18 \pm 0.03$		0.20 ± 0.18

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

Heavy Flavor Averaging Group - B^0 Polarization Measurements - April 2009

Measurements of the longitudinal polarization fraction f_L
 In PDG2008 **New since PDG2008 (preliminary)** **New since PDG2008 (published)**

RPP#	Mode	PDG2008 Avg.	BABAR	Belle	New Avg.
211	ωK^{*0}	New	$0.72 \pm 0.14 \pm 0.02$	$0.56 \pm 0.29^{+0.18}_{-0.08}$	0.70 ± 0.13
–	$\omega K_2^*(1430)^0$	New	$0.45 \pm 0.12 \pm 0.02$		0.45 ± 0.12
241	$K^{*0} \rho^0$	$0.57 \pm 0.09 \pm 0.08$	$0.57 \pm 0.09 \pm 0.08$		0.57 ± 0.12
247	ϕK^{*0}	0.484 ± 0.0033	$0.494 \pm 0.034 \pm 0.013$	$0.45 \pm 0.05 \pm 0.02$	0.480 ± 0.030
249	$K^{*0} \bar{K}^{*0}$	$0.80^{+0.10}_{-0.12} \pm 0.06$	$0.80^{+0.10}_{-0.12} \pm 0.06$		$0.80^{+0.12}_{-0.13}$
263	$\phi K_2^*(1430)^0$	$0.853^{+0.061}_{-0.069} \pm 0.036$	$0.901^{+0.046}_{-0.058} \pm 0.037$		$0.901^{+0.059}_{-0.069}$
312	$\rho^0 \rho^0$	$0.87 \pm 0.13 \pm 0.04$	$0.75^{+0.11}_{-0.14} \pm 0.04$		$0.75^{+0.12}_{-0.15}$
319	$\rho^+ \rho^-$	$0.977^{+0.028}_{-0.024}$	$0.992 \pm 0.024^{+0.026}_{-0.013}$	$0.941^{+0.034}_{-0.040} \pm 0.030$	$0.978^{+0.025}_{-0.022}$

Heavy Flavor Averaging Group - B^0 Polarization Measurements - April 2009

Full angular analysis of $B^0 \rightarrow \phi K^{*0}$

In PDG2008 New since PDG2008 (preliminary) New since PDG2008 (published)

Parameter	PDG2008 Avg.	BABAR	Belle	New Avg.
$f_{\perp} = \Lambda_{\perp\perp}$	0.26 ± 0.04	$0.212 \pm 0.032 \pm 0.013$	$0.31^{+0.06}_{-0.05} \pm 0.02$	0.241 ± 0.029
ϕ_{\parallel}	2.33 ± 0.14	$2.40 \pm 0.13 \pm 0.08$	$2.40^{+0.28}_{-0.24} \pm 0.07$	$2.40^{+0.14}_{-0.13}$
ϕ_{\perp}	2.33 ± 0.14	$2.35 \pm 0.13 \pm 0.09$	$2.51 \pm 0.25 \pm 0.06$	2.39 ± 0.13
δ_0	2.78 ± 0.19	$2.82 \pm 0.15 \pm 0.09$		2.82 ± 0.17
A_{CP}^0	0.02 ± 0.07	$0.01 \pm 0.07 \pm 0.02$	$0.13 \pm 0.12 \pm 0.04$	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
$\Delta\phi_{\parallel}$	0.10 ± 0.24	$0.22 \pm 0.12 \pm 0.08$	$-0.32 \pm 0.27 \pm 0.07$	0.11 ± 0.13
$\Delta\phi_{\perp}$	0.04 ± 0.23	$0.21 \pm 0.13 \pm 0.08$	$-0.30 \pm 0.25 \pm 0.06$	0.08 ± 0.13
$\Delta\delta_0$	0.21 ± 0.19	$0.27 \pm 0.14 \pm 0.08$		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 PDG2008 New since PDG2008 (preliminary) New since PDG2008 (published)

Parameter	PDG2008 Avg.	BABAR	Belle	New Avg.
$f_{\perp} = \Lambda_{\perp\perp}$	$0.045^{+0.051}_{-0.042}$	$0.002^{+0.018}_{-0.002} \pm 0.031$		$0.002^{+0.036}_{-0.031}$
ϕ_{\parallel}	2.90 ± 0.40	$3.96 \pm 0.38 \pm 0.06$		3.96 ± 0.39
δ_0	$3.54^{+0.13}_{-0.15}$	$3.41 \pm 0.13 \pm 0.13$		3.41 ± 0.18
A_{CP}^0	New	$-0.05 \pm 0.06 \pm 0.01$		-0.05 ± 0.06
$\Delta\phi_{\parallel}$	New	$-1.00 \pm 0.38 \pm 0.09$		-1.00 ± 0.39
$\Delta\delta_0$	New	$0.11 \pm 0.13 \pm 0.06$		0.11 ± 0.14

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

Charmless VV Polarization Measurements:

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