

Heavy Flavor Averaging Group - B^+ Polarization Measurements - July 2005

Measurements of the longitudinal polarization fraction f_L

In PDG2004 **New since PDG2004 (preliminary)** **New since PDG2004 (published)**

RPP#	Mode	PDG2004 Avg.	BABAR	Belle	New Avg.
—	$K^{*0}\rho^+$	New	$0.79 \pm 0.08 \pm 0.04$	$0.43 \pm 0.11_{-0.02}^{+0.05}$	0.66 ± 0.07
138	$K^{*+}\rho^0$	$0.96_{-0.15}^{+0.04} \pm 0.04$	$0.96_{-0.15}^{+0.04} \pm 0.04$		$0.96_{-0.15}^{+0.06}$
156	ϕK^{*+}	$0.46 \pm 0.12 \pm 0.03$	$0.46 \pm 0.12 \pm 0.03$	$0.52 \pm 0.08 \pm 0.03$	0.50 ± 0.07
182	$\rho^+\rho^0$	0.96 ± 0.06	$0.97_{-0.07}^{+0.03} \pm 0.04$	$0.95 \pm 0.11 \pm 0.02$	$0.97_{-0.07}^{+0.05}$
186	$\omega\rho^+$	New	$0.88_{-0.15}^{+0.12} \pm 0.03$		$0.88_{-0.15}^{+0.12}$

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

In PDG2004 [New since PDG2004 \(preliminary\)](#) [New since PDG2004 \(published\)](#)

Parameter	PDG2004 Avg.	BABAR	Belle	New Avg.
f_{\perp}	New		$0.19 \pm 0.08 \pm 0.02$	0.19 ± 0.08
ϕ_{\parallel}	New		$2.10 \pm 0.28 \pm 0.04$	2.10 ± 0.28
ϕ_{\perp}	New		$2.31 \pm 0.30 \pm 0.07$	2.31 ± 0.31

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

Heavy Flavor Averaging Group - B^0 Polarization Measurements - April 2, 2005

Measurements of the longitudinal polarization fraction f_L

In PDG2004 New since PDG2004 (preliminary) New since PDG2004 (published)

RPP#	Mode	PDG2004 Avg.	BABAR	Belle	New Avg.
154	ϕK^{*0}	0.57 ± 0.11	$0.52 \pm 0.05 \pm 0.02$	$0.45 \pm 0.05 \pm 0.02$	0.48 ± 0.04
203	$\rho^+ \rho^-$	New	$0.99 \pm 0.03^{+0.04}_{-0.03}$	$0.951^{+0.033+0.029}_{-0.039-0.031}$	$0.971^{+0.031}_{-0.030}$

Heavy Flavor Averaging Group - B^0 Polarization Measurements - April 2, 2005

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

In PDG2004 New since PDG2004 (preliminary) New since PDG2004 (published)

Parameter	PDG2004 Avg.	BABAR	Belle	New Avg.
$f_{\perp} = \Lambda_{\perp\perp}$	New	$0.22 \pm 0.05 \pm 0.02$	$0.31_{-0.05}^{+0.06} \pm 0.02$	0.26 ± 0.04
ϕ_{\parallel}	New	$2.34_{-0.20}^{+0.23} \pm 0.05$	$2.40_{-0.24}^{+0.28} \pm 0.07$	$2.36_{-0.16}^{+0.18}$
ϕ_{\perp}	New	$2.47 \pm 0.25 \pm 0.05$	$2.51 \pm 0.25 \pm 0.06$	2.49 ± 0.18
A_{CP}^0	New	$-0.06 \pm 0.10 \pm 0.01$	$0.13 \pm 0.12 \pm 0.04$	0.01 ± 0.08
A_{CP}^{\perp}	New	$-0.10 \pm 0.24 \pm 0.05$	$-0.20 \pm 0.18 \pm 0.04$	-0.16 ± 0.15
$\Delta\phi_{\parallel}$	New	$0.27_{-0.23}^{+0.20} \pm 0.05$	$-0.32 \pm 0.27 \pm 0.07$	0.03 ± 0.18
$\Delta\phi_{\perp}$	New	$0.36 \pm 0.25 \pm 0.05$	$-0.30 \pm 0.25 \pm 0.06$	0.03 ± 0.18
$f_{\parallel} = \Lambda_{\parallel\parallel}$	New	$0.26 \pm 0.05 \pm 0.02$	$0.24 \pm 0.06 \pm 0.02$	0.25 ± 0.04
$\mathcal{A}_T^0 = -0.5\Lambda_{\perp 0}$	New	$0.11 \pm 0.05 \pm 0.01$	$-0.08 \pm 0.08 \pm 0.02$	0.06 ± 0.04
$\mathcal{A}_T^{\parallel} = -0.5\Lambda_{\perp\parallel}$	New	$-0.02 \pm 0.04 \pm 0.01$	$-0.01 \pm 0.05 \pm 0.01$	-0.02 ± 0.03
$\Lambda_{\parallel 0}$	New	$-0.50 \pm 0.12 \pm 0.03$	$-0.45 \pm 0.11 \pm 0.02$	-0.47 ± 0.08
Σ_{00}	New	$0.03 \pm 0.05 \pm 0.01$	$-0.06 \pm 0.05 \pm 0.01$	-0.02 ± 0.04
$\Sigma_{\parallel\parallel}$	New	$-0.05 \pm 0.06 \pm 0.01$	$-0.01 \pm 0.06 \pm 0.01$	-0.03 ± 0.04
$\Sigma_{\perp\perp}$	New	$0.02_{-0.05}^{+0.06} \pm 0.01$	$0.06 \pm 0.06 \pm 0.01$	0.04 ± 0.04
$\Sigma_{\perp 0}$	New	$-0.41 \pm 0.14 \pm 0.03$	$-0.41_{-0.14}^{+0.16} \pm 0.04$	$-0.41_{-0.10}^{+0.11}$
$\Sigma_{\perp\parallel}$	New	$-0.06_{-0.08}^{+0.09} \pm 0.02$	$-0.06 \pm 0.10 \pm 0.01$	$-0.06_{-0.06}^{+0.07}$
$\Sigma_{\parallel 0}$	New	$0.18_{-0.13}^{+0.11} \pm 0.03$	$-0.11 \pm 0.11 \pm 0.02$	0.01 ± 0.09

Results below the line have been derived from the primary results. BR, f_L and A_{CP} are tabulated separately.

Charmless VV Polarization Measurements:

BABAR References

- [1] *BABAR* Collaboration (B. Aubert *et al.*), Phys. Rev. Lett. **91**, 171802 (2003).
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Belle References

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