

August 25th, 2004
Heavy Flavor Averaging Group

Compilation of Charmless Hadronic *CP* Asymmetries

Charged *B* Modes

In PDG2002

New since PDG2002 (preliminary)

New since PDG2002 (published)

RPP#	Mode	PDG2002 Avg.	BABAR	Belle	CLEO	CDF	New Avg.
86	$K^0\pi^+$	-0.05 ± 0.14	$-0.087 \pm 0.046 \pm 0.010$	$0.05 \pm 0.05 \pm 0.01$	$0.18 \pm 0.24 \pm 0.02$		-0.020 ± 0.034
87	$K^+\pi^0$	-0.10 ± 0.12	$0.06 \pm 0.06 \pm 0.01$	$0.04 \pm 0.05 \pm 0.02$	$-0.29 \pm 0.23 \pm 0.02$		0.04 ± 0.04
88	$\eta'K^+$	-0.02 ± 0.07	$0.04 \pm 0.05 \pm 0.01$	$-0.02 \pm 0.07 \pm 0.01$	$0.03 \pm 0.12 \pm 0.02$		0.02 ± 0.04
90	ηK^+	New	$-0.52 \pm 0.24 \pm 0.01$	$-0.49 \pm 0.31 \pm 0.07$			-0.51 ± 0.19
91	ηK^{*+}	New	$0.13 \pm 0.14 \pm 0.02$	$-0.09^{+0.16}_{-0.15} \pm 0.01$			$0.03^{+0.11}_{-0.10}$
92	ωK^+	New	$-0.09 \pm 0.17 \pm 0.01$	$0.06^{+0.21}_{-0.18} \pm 0.01$			$-0.02^{+0.13}_{-0.12}$
96	$K^+\pi^+\pi^-$	New	$0.01 \pm 0.07 \pm 0.03$				0.01 ± 0.08
-	$K^{*0}\rho^+$	New	$-0.14 \pm 0.17 \pm 0.4$				-0.14 ± 0.43
106	$K^{*+}\rho^0$	New	$0.20^{+0.32}_{-0.29} \pm 0.04$				$0.20^{+0.32}_{-0.29}$
116	$K^+K^-K^+$	New	$0.02 \pm 0.07 \pm 0.03$				0.02 ± 0.08
-	$K^+K_S K_S$	New	$-0.04 \pm 0.11 \pm 0.02$				-0.04 ± 0.11
117	ϕK^+	-0.05 ± 0.20	$0.054 \pm 0.056 \pm 0.012$	$0.01 \pm 0.12 \pm 0.05$		$-0.07 \pm 0.17^{+0.06}_{-0.05}$	0.038 ± 0.050
120	ϕK^{*+}	$-0.43^{+0.36}_{-0.31}$	$0.16 \pm 0.17 \pm 0.03$	$0.13 \pm 0.29^{+0.08}_{-0.11}$			0.15 ± 0.15
131	$\pi^+\pi^0$	New	$-0.01 \pm 0.10 \pm 0.02$	$-0.02 \pm 0.10 \pm 0.01$			-0.02 ± 0.07
132	$\pi^+\pi^-\pi^+$	New	$-0.39 \pm 0.33 \pm 0.12$				-0.39 ± 0.35
133	$\rho^0\pi^+$	New	$-0.19 \pm 0.11 \pm 0.02$				-0.19 ± 0.11
138	$\rho^+\pi^0$	New	$0.24 \pm 0.16 \pm 0.06$	$0.06 \pm 0.19^{+0.04}_{-0.06}$			0.16 ± 0.13
140	$\rho^+\rho^0$	New	$-0.19 \pm 0.23 \pm 0.03$	$0.00 \pm 0.22 \pm 0.03$			-0.09 ± 0.16
143	$\omega\pi^+$	-0.21 ± 0.19	$0.03 \pm 0.16 \pm 0.01$	$0.50^{+0.23}_{-0.20} \pm 0.02$	$-0.34 \pm 0.25 \pm 0.02$		0.10 ± 0.11
145	$\eta\pi^+$	New	$-0.44 \pm 0.18 \pm 0.01$	$0.07 \pm 0.15 \pm 0.03$			-0.14 ± 0.12
146	$\eta'\pi^+$	New	$0.24 \pm 0.19 \pm 0.01$				0.24 ± 0.19
148	$\eta\rho^+$	New	$0.07 \pm 0.19 \pm 0.02$	$-0.17^{+0.33}_{-0.29} \pm 0.02$			$0.01^{+0.17}_{-0.16}$

B^\pm/B^0 Admixture

RPP#	Mode	PDG2002 Avg.	BABAR	Belle	CLEO	CDF	New Avg.
53	$K^*\gamma$	-0.01 ± 0.07	$-0.013 \pm 0.036 \pm 0.010$	$-0.015 \pm 0.044 \pm 0.012$	$0.08 \pm 0.13 \pm 0.03$		-0.010 ± 0.028
63	$s\gamma$	-0.08 ± 0.11	$0.025 \pm 0.050 \pm 0.015$	$0.002 \pm 0.050 \pm 0.026$	$-0.08 \pm 0.11 \pm 0.02$		0.005 ± 0.036
–	$s\ell\ell$	New	$-0.22 \pm 0.26 \pm 0.02$				-0.22 ± 0.26

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Neutral *B* Modes

In PDG2002 New since PDG2002 (preliminary) New since PDG2002 (published)

RPP#	Mode	PDG2002 Avg.	BABAR	Belle	CLEO	CDF	New Avg.
88	$K^+\pi^-$	-0.09 ± 0.06	$-0.133 \pm 0.030 \pm 0.009$	$-0.101 \pm 0.025 \pm 0.005$	$-0.04 \pm 0.16 \pm 0.02$	$-0.04 \pm 0.08 \pm 0.006$	-0.109 ± 0.019
89	$K^0\pi^0$ †						
92	ηK^{*0}	New	$0.02 \pm 0.11 \pm 0.02$	$-0.04^{+0.11} \pm 0.01$			-0.01 ± 0.08
99	$K^+\rho^-$	New	$0.13^{+0.14}_{-0.17} \pm 0.14$	$0.22^{+0.22+0.06}_{-0.23-0.02}$			$0.17^{+0.15}_{-0.16}$
–	$K_0^*(1430)^+\pi^-$	New	$-0.07 \pm 0.12 \pm 0.08$				-0.07 ± 0.14
–	$K_0^*(1430)^0\pi^0$	New	$-0.34 \pm 0.15 \pm 0.11$				-0.34 ± 0.19
103	$K^{*+}\pi^-$	New	-0.04 ± 0.13		$0.26^{+0.33+0.10}_{-0.34-0.08}$		-0.00 ± 0.12
–	$K^+\pi^-\pi^0$	New		$0.07 \pm 0.11 \pm 0.01$			0.07 ± 0.11
104	$K^{*0}\pi^0$	New	$-0.01^{+0.24}_{-0.22} \pm 0.13$				$-0.01^{+0.27}_{-0.26}$
115	ϕK^{*0}	0.00 ± 0.27	$0.04 \pm 0.12 \pm 0.02$	$0.07 \pm 0.15^{+0.05}_{-0.03}$			0.05 ± 0.10
134	$\pi^0\pi^0$	New	$0.12 \pm 0.56 \pm 0.06$	$0.43 \pm 0.51^{+0.17}_{-0.16}$			0.28 ± 0.39
154	$\rho^+\pi^-\pi^0$						

† Measurements of time-dependent *CP* asymmetries are listed on the Unitarity Triangle home page. (<http://www.slac.stanford.edu/xorg/hfag/triangle/index.html>)

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