

Decay	<i>BABAR</i>	Belle	\mathcal{B}	Dalitz	CP	CKM
General 3B	[1]	[2]				
General 2B/Q2B	[3]	[4–6]				
General Dalitz	[7]					
$a_1^\pm(1260) \pi^\pm$	[8, 9]					
$a_1^+(1260) K^0, a_1^-(1260) K^+$	[10]					
$a_1^\pm(1260) \pi^0, a_1^0(1260) \pi^\pm$	[11]					
$a_1^\pm(1260) \pi^\mp$	[12, 13]					
$a_1^\pm(1260) \rho^\mp$	[14]					
$a_0^+ \pi^0$	[15]					
$a_0\pi, a_0 K, \eta\rho^0, \eta f_0(980)$	[16]					
$b_1\rho$	[17]					
$b_1 K^0, b_1^0 K^0, b_1 \pi^0$	[18]					
$b_1\pi, b_1 K$	[19]					
$\omega K, \omega\pi$	[20, 21]	[22–24]				
$\eta\eta, \eta\eta'$	[25, 26]					
$\eta\rho^+, \eta\eta', \eta' \pi^0, \omega\pi^0$	[27, 28]					
$\eta K^\pm, \eta\pi^\pm$	[21]					
$\eta K, \eta\pi$		[29]				
$\eta K^*, \eta\rho$	[30]	[31, 32]				
$\eta K_S^0, \eta\eta, \eta' \eta', \eta\phi, \eta' \phi$	[33]					
$\eta\pi^+, \eta K^+, \eta\rho^+, \eta' \pi^+$	[34]					
$\eta' K, \eta'\pi$	[21]	[35–39]				
$\eta' (\rho, K^*, \phi, \omega, \eta')$		[40]				
$\eta' K^*, \eta' \rho^+$	[41]					
$\eta' \eta' K$	[42]					
$K_S^0 \pi^0, K^0 \pi^0$	[43, 44]	[45]				
$K^0 K^+, K^0 \bar{K}^0, K^0 \pi^+, K^0 K^0, K^+ \bar{K}^0$	[46, 47]	[48, 49]				
$K^+ \pi^-$	[50, 51]	[52]				
$\pi^+ \pi^-$	[51, 53]	[54–57]				
$K\pi, \pi\pi$		[58–61]				
KK		[59, 61–63]				
$\pi^0 \pi^0, \pi^\pm \pi^0, K^\pm \pi^0$	[64, 65]	[66, 67]				
hh		[68]				
$K_S^0 \pi^- \pi^+$	[69–71]	[72, 73]				
$K_S^0 \pi^0 \pi^0$	[74]					
$K^\pm \pi^\mp \pi^0$	[75]	[76]				
$K^+ K^- \pi^+$	[77]					
$K^+ \pi^- \pi^-, K^- K^- \pi^+$	[78]					
$K^\pm \pi^\mp \pi^\pm$	[79, 80]	[81, 82]				
$K^+ K^- K^+$	[83]	[82]				
$\chi_{c0} K^+$		[84]				
$K^+ K^- K_S^0$	[85–87]	[38, 88, 89]				
$K_S^0 K_S^0 (\pi^0, \eta, \eta')$	[90]					
$K_S^0 K_S^0 \pi^+$	[91]					
$K_S^0 K_S^0 K_S^0$	[92, 93]	[94, 95]				
$\pi^+ \pi^+ \pi^-$	[96, 97]					

Table 1: Charmless two- and three-body decays Part I.

Decay	BABAR	Belle	\mathcal{B}	Dalitz	CP	CKM
$\omega (K^*, \rho, f_0(980))$	[98]	[99]				
$\omega (K^*, \rho, \omega, \phi, f_0(980))$	[100]					
$K_s^0 (\omega, \eta', \pi^0)$	[101, 102]					
$\phi K_s^0 \pi^0, \phi K^+ \pi^-$	[103]					
$\phi K^+ \pi^-$	[104]					
ϕK^*	[105]					
$\phi\phi, \phi\rho, \phi f_0(980), f_0(980) f_0(980)$	[108]					
$\phi K_1^+, \phi K_2^{*\pm}$	[109]					
$\phi\phi K, \phi\phi K_s^0$	[110]					
$\phi\pi^0, \phi\pi^+$	[112]					
ϕK_s^0	[87]					
$\rho^+ \rho^0$	[114, 115]					
$\rho^0 \rho^0$	[117–119]					
$\rho^+ \rho^-$	[121, 122]					
$\rho\rho$	[126]					
$(\rho\pi)^0$	[127, 128]					
$\rho\pi$						
$\rho^+ \pi^0$	[134]					
$\rho^+ K_s^0$	[136]					
$\rho^0 K_s^0$	[137]					
$\rho^0 K^+$						
$\rho^- K^+$						
$\rho^+ K^*$	[138]					
$\rho^0 K^+ \pi^-$						
$K^{*0} K$	[141]					
$\bar{K}^{*0} K^{*+}$	[142, 143]					
$K^{*0} \chi_{c0}, K^{*+} \chi_{c0}$	[144, 145]					
$K^{*0} \bar{K}^{*0}, K^{*0} K^{*0}$	[146]					
$K^{*+} K^{*-}$	[148]					
$K^{*0} K^+ K^-, K^{*0} \pi^+ K^-, K^{*0} K^+ \pi^-, K^{*0} \pi^+ \pi^-$	[149]					
$K^{*+} K^+ K^-, K^{*+} \pi^+ K^-, K^{*+} K^+ \pi^-, K^{*+} \pi^+ \pi^-$	[150]					
$p \bar{p} K^{*0}$						
$p \bar{p} K^+, p \bar{p} \pi^+$						
$p \bar{p}, \Lambda\bar{\Lambda}, p\bar{\Lambda}$						
$s\bar{s}$	[154]					

Table 2: Charmless two- and three-body decays Part II.

References

- [1] B. Aubert et al. "Charmless hadronic three body B decays at $BABAR$ ". *Int. J. Mod. Phys. A* **24**, 434–437, 2009.
- [2] A. Garmash et al. Study of B meson decays to three-body charmless hadronic final states. *Phys. Rev.*, D69:012001, 2004.
- [3] B. Aubert et al. "B Meson decays to quasi-two-body charmless final states at $BABAR$ ". *Int. J. Mod. Phys. A* **20**, 3581–3583, 2005.
- [4] B. C. K. Casey et al. Charmless hadronic two-body B meson decays. *Phys. Rev.*, D66:092002, 2002.
- [5] B. C. K. Casey. Rare B meson decays without charm from Belle. *Int. J. Mod. Phys.*, A16S1A:452–457, 2001.
- [6] K. Abe et al. Search for charmless two-body baryonic decays of B mesons. *Phys. Rev.*, D65:091103, 2002.
- [7] B. Aubert et al. "Dalitz plot analyses of charmless B decays". *Int. J. Mod. Phys. A* **20**, 3559–3561, 2005.
- [8] B. Aubert et al. "Measurement of branching fractions of B decays to $K_1(1270)\pi$ and $K_1(1400)\pi$ and the determination of the CKM angle alpha from $B^0 \rightarrow a_1^\pm(1260) \pi^\mp$ ". *Phys. Rev. D* **81**, 052009, 2010.
- [9] B. Aubert et al. "Observation and Polarization Measurement of $B^0 \rightarrow a_1^+(1260) a_1^-(1260)$ decay". *Phys. Rev. D* **80**, 092007, 2009.
- [10] B. Aubert et al. "Observation of $B^+ \rightarrow a_1^+(1260) K^0$ and $B^0 \rightarrow a_1^-(1260) K^+$ ". *Phys. Rev. Lett.* **100**, 051803, 2008.
- [11] B. Aubert et al. "Evidence for charged B meson decays to $a_1^\pm(1260) \pi^0$ and $a_1^0(1260) \pi^\pm$ ". *Phys. Rev. Lett.* **99**, 261801, 2007.
- [12] B. Aubert et al. "Measurements of the CP -violating asymmetries in $B^0 \rightarrow a_1^\pm(1260) \pi^\mp$ decays". *Phys. Rev. Lett.* **98**, 181803, 2007.
- [13] B. Aubert et al. "Observation of B^0 meson decay to $a_1^\pm(1260) \pi^\mp$ ". *Phys. Rev. Lett.* **97**, 051802, 2006.
- [14] B. Aubert et al. "Search for the decay $B^0 \rightarrow a_1^\pm(1260) \rho^\mp$ ". *Phys. Rev. D* **74**, 031104, 2006.
- [15] B. Aubert et al. "Search for the rare charmless hadronic decay $B^+ \rightarrow a_0^+ \pi^0$ ". *Phys. Rev. D* **77**, 011101, 2008.
- [16] B. Aubert et al. "Search for neutral B meson decays to $a_0 \pi^0$, $a_0 K$, $\eta \rho^0$ and $\eta f_0(980)$ ". *Phys. Rev. D* **75**, 111102, 2007.
- [17] B. Aubert et al. "Search for B meson decays to $b_1 \rho$ and $b_1 K^*$ ". *Phys. Rev. D* **80**, 051101, 2009.

- [18] B. Aubert et al. "Observation of $B^+ \rightarrow b_1^+ K^0$ and the search for B meson decays to $b_1^0 K^0$ and $b_1^- \pi^0$ ". *Phys. Rev. D* **78**, 011104, 2008.
- [19] B. Aubert et al. "Observation of B meson decays to $b_1\pi$ and b_1K ". *Phys. Rev. Lett.* **99**, 241803, 2007.
- [20] B. Aubert et al. "Measurements of the CP -violating asymmetries and branching fractions in B decays to ωK and $\omega\pi$ ". *Phys. Rev. D* **74**, 011106, 2006.
- [21] B. Aubert et al. "Branching fraction and CP -violation charge asymmetry measurements for B meson decays to ηK^\pm , $\eta\pi^\pm$, $\eta'K$, $\eta'\pi^\pm$, ωK and $\omega\pi^\pm$ ". *Phys. Rev. D* **76**, 031103, 2007.
- [22] C. M. Jen et al. Improved measurements of branching fractions and CP partial rate asymmetries for $B \rightarrow \omega K$ and $B \rightarrow \omega\pi$. *Phys. Rev.*, D74:111101, 2006.
- [23] C. H. Wang et al. Measurement of the branching fractions for $b \rightarrow \omega K$ and $B \rightarrow \omega\pi$. *Phys. Rev.*, D70:012001, 2004.
- [24] R. S. Lu et al. Observation of $B^\pm \rightarrow \omega K^\pm$ decay. *Phys. Rev. Lett.*, 89:191801, 2002.
- [25] B. Aubert et al. "B meson decays to charmless meson pairs containing η or η' mesons". *Phys. Rev. D* **80**, 112002, 2009.
- [26] B. Aubert et al. "Study of B meson decays with excited η and η' mesons". *Phys. Rev. Lett.* **101**, 091801, 2008.
- [27] B. Aubert et al. "Observation of $B^+ \rightarrow \eta\rho^+$ and search for B^0 decays to $\eta'\eta$, $\eta\pi^0$, $\eta'\pi^0$ and $\omega\pi^0$ ". *Phys. Rev. D* **78**, 011107, 2008.
- [28] B. Aubert et al. "Branching fraction limits for B^0 decays to $\eta'\eta$, $\eta'\pi^0$ and $\eta\pi^0$ ". *Phys. Rev. D* **73**, 071102, 2006.
- [29] K. Abe et al. Improved measurements of branching fractions and CP asymmetries in $B \rightarrow \eta h$ decays. *Phys. Rev.*, D75:071104, 2007.
- [30] B. Aubert et al. "Measurement of the branching fractions and charge asymmetries in B decays to an η meson and a K^* meson". *Phys. Rev. Lett.* **97**, 201802, 2006.
- [31] C. H. Wang et al. Measurement of charmless B Decays to ηK^* and $\eta\rho$. *Phys. Rev.*, D75:092005, 2007.
- [32] F. Fang et al. Measurement of branching fractions for $B \rightarrow \eta_c K^{(*)}$ decays. *Phys. Rev. Lett.*, 90:071801, 2003.
- [33] B. Aubert et al. "Searches for B^0 decays to ηK^0 , $\eta\eta$, $\eta'\eta'$, $\eta\phi$, $\eta'\phi$ ". *Phys. Rev. D* **74**, 051106, 2006.
- [34] B. Aubert et al. "Measurement of the branching fractions and charge asymmetries in B^+ decays to $\eta\pi^+$, ηK^+ , $\eta\rho^+$ and $\eta'\pi^+$, and search for B^0 decays to ηK^0 and $\eta\omega$ ". *Phys. Rev. D* **95**, 131803, 2005.
- [35] J. Schumann et al. Evidence for $B \rightarrow \eta'\pi$ and improved measurements for $B \rightarrow \eta'K$. *Phys. Rev. Lett.*, 97:061802, 2006.

- [36] K. F. Chen et al. Measurement of CP-violating parameters in $B \rightarrow \eta' K$ decays. *Phys. Lett.*, B546:196–205, 2002.
- [37] P. Chang et al. Measurements of Branching Fractions and CP Asymmetries in $B \rightarrow \eta h$ Decays. *Phys. Rev.*, D71:091106, 2005.
- [38] K. Abe et al. Measurement of time-dependent CP-violating asymmetries in $B^0 \rightarrow \phi K_s^0$, $K^+ K^- K_s^0$ and $\eta' K_s^0$ decays. *Phys. Rev. Lett.*, 91:261602, 2003.
- [39] K. Abe et al. Measurement of the branching fraction for $B \rightarrow \eta' K$ and search for $b \rightarrow \eta' \pi^+$. *Phys. Lett.*, B517:309–318, 2001.
- [40] J. Schumann et al. Search for B decays into $\eta' \rho$, $\eta' K^*$, $\eta' \phi$, $\eta' \omega$ and $\eta' \eta^{(\prime)}$. *Phys. Rev.*, D75:092002, 2007.
- [41] B. Aubert et al. "Observation of $B \rightarrow \eta' K^*$ and evidence for $B^+ \rightarrow \eta' \rho^+$ ". *Phys. Rev. Lett.* **98**, 051802, 2007.
- [42] B. Aubert et al. "Search for the B meson decays to $\eta' \eta' K$ ". *Phys. Rev. D* **74**, 031105, 2006.
- [43] B. Aubert et al. "Measurement of the CP -violating asymmetries in $B^0 \rightarrow K_s^0 \pi^0$ and of the branching fraction $B^0 \rightarrow K^0 \pi^0$ ". *Phys. Rev. D* **77**, 012003, 2008.
- [44] B. Aubert et al. "Measurement of the branching fraction and CP -violating asymmetry for the decay $B^0 \rightarrow K_s^0 \pi^0$ ". *Phys. Rev. D* **71**, 111102, 2005.
- [45] M. Fujikawa et al. Measurement of CP asymmetries in $B^0 \rightarrow K^0 \pi^0$ decays. *Phys. Rev.*, D81:011101, 2010.
- [46] B. Aubert et al. "Observation of $B^+ \rightarrow \bar{K}^0 K^+$ and $B^0 \rightarrow K^0 \bar{K}^0$ ". *Phys. Rev. Lett.* **97**, 171805, 2006.
- [47] B. Aubert et al. "Evidence for $B^+ \rightarrow \bar{K}^0 K^+$ and $B^0 \rightarrow K^0 \bar{K}^0$ and measurement of the branching fraction and search for direct CP -violation in $B^+ \rightarrow K^0 \pi^+$ ". *Phys. Rev. Lett.* **95**, 221801, 2005.
- [48] Y. Nakahama et al. Measurement of Time-Dependent CP-Violating Parameters in $B^0 \rightarrow K_s^0 K_s^0$ decays. *Phys. Rev. Lett.*, 100:121601, 2008.
- [49] Y. Unno et al. Improved measurement of the partial-rate CP asymmetry in $B^+ \rightarrow K_s^0 \pi^+$ and $B^0 \rightarrow \bar{K}^0 \pi^-$ decays. *Phys. Rev.*, D68:011103, 2003.
- [50] B. Aubert et al. "Observation of CP -violation in $B^0 \rightarrow K^+ \pi^-$ and $B^0 \rightarrow \pi^+ \pi^-$ ". *Phys. Rev. Lett.* **99**, 021603, 2007.
- [51] B. Aubert et al. "Improved measurements of the branching fractions for $B^0 \rightarrow \pi^+ \pi^-$ and $B^0 \rightarrow K^+ \pi^-$, and a search for $B^0 \rightarrow K^+ K^-$ ". *Phys. Rev. D* **75**, 012008, 2007.
- [52] Y. Chao et al. Evidence for direct CP violation in $B^0 \rightarrow K^+ \pi^-$ decays. *Phys. Rev. Lett.*, 93:191802, 2004.
- [53] B. Aubert et al. "Improved measurements of CP -violating asymmetry amplitudes $B^0 \rightarrow \pi^+ \pi^-$ ". *Phys. Rev. Lett.* **95**, 151803, 2005.

- [54] H. Ishino et al. Observation of Direct CP-Violation in $B^0 \rightarrow \pi^+ \pi^-$ Decays and Model-Independent Constraints on ϕ_{12} . *Phys. Rev. Lett.*, 98:211801, 2007.
- [55] K. Abe et al. Improved evidence for direct CP violation in $B^0 \rightarrow \pi^+ \pi^-$ decays and model-independent constraints on ϕ_2 . *Phys. Rev. Lett.*, 95:101801, 2005.
- [56] K. Abe et al. Evidence for CP-violating asymmetries $B^0 \rightarrow \pi^+ \pi^-$ decays and constraints on the CKM angle ϕ_2 . *Phys. Rev.*, D68:012001, 2003.
- [57] K. Abe et al. Measurement of CP-violating asymmetries in $B^0 \rightarrow \pi^+ \pi^-$ decays. *Phys. Rev. Lett.*, 89:071801, 2002.
- [58] K. Abe et al. Measurements of branching fractions for $B \rightarrow K\pi$ and $B \rightarrow \pi\pi$ decays with 449 million $B\bar{B}$ pairs. *Phys. Rev. Lett.*, 99:121601, 2007.
- [59] Y. Chao et al. Improved Measurements of Branching Fractions for $B \rightarrow K\pi$, $\pi\pi$ and $K\bar{K}$ Decays. *Phys. Rev.*, D69:111102, 2004.
- [60] K. Abe et al. Search for direct CP violation in $B \rightarrow K\pi$ decays. *Phys. Rev.*, D64:071101, 2001.
- [61] K. Abe et al. Measurement of branching fractions for $B \rightarrow \pi^+ \pi^-, K\pi, KK$ decays. *Phys. Rev. Lett.*, 87:101801, 2001.
- [62] K. Abe et al. Observation of B decays to two kaons. *Phys. Rev. Lett.*, 98:181804, 2007.
- [63] K. Abe et al. Measurements of B decays to two kaons. *Phys. Rev. Lett.*, 95:231802, 2005.
- [64] B. Aubert et al. "Study of $B^0 \rightarrow \pi^0 \pi^0$, $B^\pm \rightarrow \pi^\pm \pi^0$ and $B^\pm \rightarrow K^\pm \pi^0$ decays and the isospin analysis of $B \rightarrow \pi\pi$ decays". *Phys. Rev. D* **76**, 091102, 2007.
- [65] B. Aubert et al. "Branching fractions and CP asymmetries in $B^0 \rightarrow \pi^0 \pi^0$, $B^+ \rightarrow \pi^+ \pi^0$ and $B^+ \rightarrow K^+ \pi^0$ decays, and isospin analysis of the $B \rightarrow \pi\pi$ system". *Phys. Rev. Lett.* **94**, 181802, 2005.
- [66] K. Abe et al. Observation of $B^0 \rightarrow \pi^0 \pi^0$. *Phys. Rev. Lett.*, 94:181803, 2005.
- [67] K. Abe et al. Evidence for $B^0 \rightarrow \pi^0 \pi^0$. *Phys. Rev. Lett.*, 91:261801, 2003.
- [68] Y. Chao et al. Improved measurements of partial rate asymmetry in $b \rightarrow hh$ decays. *Phys. Rev.*, D71:031502, 2005.
- [69] B. Aubert et al. "Time dependent amplitude analysis of $B^0 \rightarrow K_S^0 \pi^+ \pi^-$ ". *Phys. Rev. D* **80**, 112001, 2009.
- [70] B. Aubert et al. "Measurements of the neutral B decay branching fractions to $K_S^0 \pi^+ \pi^-$ final states and the charge asymmetry of $B^0 \rightarrow K^{*+} \pi^-$ ". *Phys. Rev. D* **73**, 031101, 2006.
- [71] B. Aubert et al. "Measurement of the neutral B decay branching fractions to $K_S^0 \pi^+ \pi^-$ final states.". *Phys. Rev. D* **70**, 091103, 2004.
- [72] J. Dalseno et al. Time-dependent Dalitz Plot Measurement of CP Parameters in $B^0 \rightarrow K_S^0 \pi^+ \pi^-$ Decays. *Phys. Rev.*, D79:072004, 2009.

- [73] A. Garmash et al. Dalitz analysis of three-body charmless $B^0 \rightarrow K^0 \pi^+ \pi^-$ decay. *Phys. Rev.*, D75:012006, 2007.
- [74] B. Aubert et al. "Measurement of CP asymmetry in $B^0 \rightarrow K_S^0 \pi^0 \pi^0$ decays.". *Phys. Rev. D* **76**, 071101, 2007.
- [75] B. Aubert et al. "Dalitz plot analysis of the decay $B^0 (\bar{B}^0) \rightarrow K^\pm \pi^\mp \pi^0$ ". *Phys. Rev. D* **78**, 052005, 2008.
- [76] P. Chang et al. Observation of the decays $B^0 K^+ \pi^- \pi^0$ and $B^0 \rightarrow \rho^- K^+$. *Phys. Lett.*, B599:148–158, 2004.
- [77] B. Aubert et al. "Observation of the decay $B^+ \rightarrow K^+ K^- \pi^+$ ". *Phys. Rev. Lett.* **99**, 221801, 2007.
- [78] B. Aubert et al. "Search for the highly suppressed decay $B^- \rightarrow K^+ \pi^- \pi^-$ and $B^- \rightarrow K^- K^+ \pi^+$ ". *Phys. Rev. D* **78**, 091102, 2008.
- [79] B. Aubert et al. "Evidence for Direct CP Violation from Dalitz plot analysis of $B^+ \rightarrow K^\pm \pi^\mp \pi^\pm$ ". *Phys. Rev. D* **78**, 012004, 2008.
- [80] B. Aubert et al. "Dalitz plot analysis of the decays $B^+ \rightarrow K^\pm \pi^\mp \pi^\pm$ ". *Phys. Rev. D* **72**, 072003, 2005.
- [81] A. Garmash et al. Evidence for Large Direct CP Violation in $B^\pm \rightarrow \rho^0 K^\pm$ from Analysis of the Three-Body Charmless $B^\pm \rightarrow K^\pm \pi^\pm \pi^\mp$ Decay. *Phys. Rev. Lett.*, 96:251803, 2006.
- [82] A. Garmash et al. Dalitz analysis of the three-body charmless decays $B^+ \rightarrow K^+ \pi^+ \pi^-$ and $B^+ \rightarrow K^+ K^+ K^-$. *Phys. Rev.*, D71:092003, 2005.
- [83] B. Aubert et al. "Dalitz plot analysis of the decay $B^\pm \rightarrow K^\pm K^\pm K^\mp$ ". *Phys. Rev. D* **74**, 032003, 2006.
- [84] K. Abe et al. Observation of $B^+ \rightarrow \chi_{c0} K^+$. *Phys. Rev. Lett.*, 88:031802, 2002.
- [85] B. Aubert et al. "Measurements of CP -violating asymmetries in the decay $B^0 \rightarrow K^+ K^- K^0$ ". *Phys. Rev. Lett.* **99**, 161802, 2007.
- [86] B. Aubert et al. "Measurement of CP asymmetry in $B^0 \rightarrow f_0(980) K_S^0$, $B^0 \rightarrow \phi K^0$ and $B^0 \rightarrow K^+ K^- K_S^0$ decays.". *Int. J. Mod. Phys. A* **20**, 3531–3534, 2005.
- [87] B. Aubert et al. "Measurement of CP asymmetries in $B^0 \rightarrow \phi K^0$ and $B^0 \rightarrow K^+ K^- K_S^0$ decays.". *Phys. Rev. D* **71**, 091102, 2005.
- [88] K. Abe et al. Measurements of time-dependent CP violation in $B^0 \rightarrow \omega K_S^0$, $f_0(980) K_S^0$, $K_S^0 \pi^0$, and $K^+ K^- K_S^0$ decays. *Phys. Rev.*, D76:091103, 2007.
- [89] J. MacNaughton. Time-dependent CP violation in $B^0 \rightarrow K_S^0 \phi$, $K_S^0 \eta'$ and $K_S^0 K^+ K^-$ in the Belle and BaBar experiments. *Eur. Phys. J.*, C33:s343–s345, 2004.
- [90] B. Aubert et al. "Search for B^0 meson decays to $\pi^0 K_S^0 K_S^0$, $\eta K_S^0 K_S^0$ and $\eta' K_S^0 K_S^0$ ". *Phys. Rev. D* **80**, 011101, 2009.
- [91] B. Aubert et al. "Search for the decay $B^+ \rightarrow K_S^0 K_S^0 \pi^+$ ". *Phys. Rev. D* **79**, 051101, 2009.

- [92] B. Aubert et al. "Measurement of CP asymmetries in $B^0 \rightarrow K_S^0 K_S^0 K_S^0$ decays". *Phys. Rev. D* **76**, 091101, 2007.
- [93] B. Aubert et al. "Branching fraction and CP asymmetries of $B^0 \rightarrow K_S^0 K_S^0 K_S^0$ ". *Phys. Rev. Lett.* **95**, 011801, 2005.
- [94] K. F. Chen et al. Observation of time-dependent CP violation in $B^0 \rightarrow \eta' K^0$ decays and improved measurements of CP asymmetries in $B^0 \rightarrow \phi K^0$, $K_S^0 K_S^0 K_S^0$ and $B^0 \rightarrow J/\psi K^0$ decays. *Phys. Rev. Lett.*, 98:031802, 2007.
- [95] K. Sumisawa et al. Measurement of time-dependent CP -violating asymmetries in $B^0 \rightarrow K_S^0 K_S^0 K_S^0$ decay. *Phys. Rev. Lett.*, 95:061801, 2005.
- [96] B. Aubert et al. "Dalitz Plot Analysis of $B^\pm \rightarrow \pi^\pm \pi^\pm \pi^\mp$ decays". *Phys. Rev. D* **79**, 072006, 2009.
- [97] B. Aubert et al. "An amplitude analysis of the decay $B^\pm \rightarrow \pi^\pm \pi^\pm \pi^\mp$ ". *Phys. Rev. D* **72**, 052002, 2005.
- [98] B. Aubert et al. "Observation of B meson decays to ωK^* and Improved Measurements for $\omega\rho$ and $\omega f_0(980)$ ". *Phys. Rev. D* **79**, 052005, 2009.
- [99] P. Goldenzweig et al. Evidence for Neutral B Meson Decays to ωK^{*0} . *Phys. Rev. Lett.*, 101:231801, 2008.
- [100] B. Aubert et al. " B meson decays to ωK^* , $\omega\rho$, $\omega\omega$, $\omega\phi$ and $\omega f_0(980)$ ". *Phys. Rev. D* **74**, 051102, 2006.
- [101] B. Aubert et al. "Measurement of the time-dependent CP asymmetry parameters in B^0 meson decays to ωK_S^0 , $\eta' K_S^0$ and $\pi^0 K_S^0$ ". *Phys. Rev. D* **79**, 052003, 2009.
- [102] B. Aubert et al. "Observation of CP violation in $B^0 \rightarrow \eta' K^0$ decays". *Phys. Rev. Lett.* **98**, 031801, 2007.
- [103] B. Aubert et al. "Time-Dependent and Time-Integrated Angular Analysis of $B^0 \rightarrow \phi K_S^0 \pi^0$ and $B^0 \rightarrow \phi K^+ \pi^-$ ". *Phys. Rev. D* **78**, 092008, 2008.
- [104] B. Aubert et al. "Search for $B^0 \rightarrow \phi(K^+ \pi^-)$ decays with large $K^+ \pi^-$ invariant mass". *Phys. Rev. D* **76**, 051103, 2007.
- [105] B. Aubert et al. "Vector-Tensor and Vector-Vector decay amplitude analysis of $B^0 \rightarrow \phi K^{*0}$ ". *Phys. Rev. Lett.* **98**, 051801, 2007.
- [106] K. F. Chen et al. Measurement of polarization and triple-product correlations in $B \rightarrow \phi K^*$ decays. *Phys. Rev. Lett.*, 94:221804, 2005.
- [107] K. F. Chen et al. Measurement of branching fractions and polarization in $B \rightarrow \phi K^{(*)}$ decays. *Phys. Rev. Lett.*, 91:201801, 2003.
- [108] B. Aubert et al. "Searches for B meson decays to $\phi\phi$, $\phi\rho$, $\phi f_0(980)$, $f_0(980)f_0(980)$ final states". *Phys. Rev. Lett.* **101**, 201801, 2008.
- [109] B. Aubert et al. "Observation and polarization measurement of $B^+ \rightarrow \phi K_1^\pm$ and $B^+ \rightarrow \phi K_2^{*\pm}$ ". *Phys. Rev. Lett.* **101**, 161801, 2008.

- [110] B. Aubert et al. "Observation of $B^0 \rightarrow \phi\phi K$ and evidence for $B^0 \rightarrow \phi\phi K_S^0$ below η_c threshold". *Phys. Rev. Lett.* **97**, 261803, 2006.
- [111] H. C. Huang et al. Observation of $B \rightarrow \phi\phi K$. *Phys. Rev. Lett.*, 91:241802, 2003.
- [112] B. Aubert et al. "Search for $B^+ \rightarrow \phi\pi^+$ and $B^0 \rightarrow \phi\pi^0$ decays". *Phys. Rev. D* **74**, 011102, 2006.
- [113] J. S. Lange. Indication of new physics in $B \rightarrow \phi K_S^0$ decays at the BELLE experiment. *Braz. J. Phys.*, 34:969, 2004.
- [114] B. Aubert et al. "Improved Measurement of $B^+ \rightarrow \rho^+ \rho^0$ and determination of the quark-mixing phase angle alpha". *Phys. Rev. Lett.* **102**, 141802, 2009.
- [115] B. Aubert et al. "Measurements of the branching fractions, polarizations and charged asymmetry of $B^\pm \rightarrow \rho^\pm \rho^0$ and a search for $B^\pm \rightarrow \rho^\pm f_0(980)$ ". *Phys. Rev. Lett.* **97**, 261801, 2006.
- [116] J. Zhang et al. Observation of $B^+ \rightarrow \rho^+ \rho^0$. *Phys. Rev. Lett.*, 91:221801, 2003.
- [117] B. Aubert et al. "Measurement of the branching fraction, polarization and CP asymmetries in $B^0 \rightarrow \rho^0 \rho^0$ decays and implications for the CKM angle alpha". *Phys. Rev. D* **78**, 071104, 2008.
- [118] B. Aubert et al. "Evidence for $B^0 \rightarrow \rho^0 \rho^0$ decay and implications for the CKM angle alpha". *Phys. Rev. Lett.* **98**, 111801, 2007.
- [119] B. Aubert et al. "Limit on $B^0 \rightarrow \rho^0 \rho^0$ branching fraction and implications for the CKM angle alpha". *Phys. Rev. Lett.* **94**, 131801, 2005.
- [120] C. C. Chiang et al. Measurement of $B^0 \rightarrow \pi^+\pi^-\pi^+\pi^-$ Decays and Search for $B^0 \rightarrow \rho^0\rho^0$. *Phys. Rev.*, D78:111102, 2008.
- [121] B. Aubert et al. "A study of $B^0 \rightarrow \rho^+ \rho^-$ decays and constraints on the CKM angle alpha". *Phys. Rev. D* **76**, 052007, 2007.
- [122] B. Aubert et al. "Improved measurement of the CKM angle alpha using $B^0 (\bar{B}^0) \rightarrow \rho^+ \rho^-$ decays". *Phys. Rev. Lett.* **95**, 041805, 2005.
- [123] A. Somov et al. Improved measurement of CP -violating parameters in $\rho^+ \rho^-$ decays. *Phys. Rev.*, D76:011104, 2007.
- [124] A. Somov et al. Measurement of the branching fraction, polarization, and CP asymmetry for $B^0 \rightarrow \rho^+ \rho^-$, and determination of the CKM phase ϕ_2 . *Phys. Rev. Lett.*, 96:171801, 2006.
- [125] C. C. Wang et al. Study of $B^0 \rightarrow \rho^\pm \pi^\mp$ time-dependent CP violation at Belle. *Phys. Rev. Lett.*, 94:121801, 2005.
- [126] B. Aubert et al. "Constraints on the CKM angle alpha in the $B \rightarrow \rho\rho$ decays.". *Int. J. Mod. Phys. A* **20**, 3578–3580, 2005.
- [127] B. Aubert et al. "Measurement of the CP -violating asymmetries in $B^0 \rightarrow (\rho\pi)^0$ using a time-dependent Dalitz plot analysis.". *Phys. Rev. D* **76**, 012004, 2007.

- [128] B. Aubert et al. "Measurement of CP -violating asymmetries in $B^0 \rightarrow (\rho\pi)^0$ using a time-dependent Dalitz plot analysis". *Int. J. Mod. Phys. A* **20**, 3551–3553, 2005.
- [129] A. Kusaka et al. Measurement of CP Asymmetries and Branching Fractions in a Time-Dependent Dalitz Analysis of $B^0 \rightarrow (\rho\pi)^0$ and a Constraint on the Quark Mixing Angle ϕ_2 . *Phys. Rev.*, D77:072001, 2008.
- [130] A. Kusaka et al. Measurement of CP Asymmetry in a Time-Dependent Dalitz Analysis of $B^0 \rightarrow (\rho\pi)^0$ and a Constraint on the Quark Mixing Matrix Angle ϕ_2 . *Phys. Rev. Lett.*, 98:221602, 2007.
- [131] K. Abe et al. Measurement of branching fraction and CP asymmetry in $B^0 \rightarrow \rho^0\pi^0$ decays. *Phys. Rev.*, D73:111105, 2006.
- [132] J. Dragic et al. Evidence of $B^0 \rightarrow \rho^0\pi^0$. *Phys. Rev. Lett.*, 93:131802, 2004.
- [133] A. Gordon et al. Study of $B \rightarrow \rho\pi$ decays at Belle. *Phys. Lett.*, B542:183–192, 2002.
- [134] B. Aubert et al. "Measurement of the $B^\pm \rightarrow \rho^\pm \pi^0$ branching fraction and direct CP asymmetry". *Phys. Rev. D* **75**, 091103, 2007.
- [135] J. Zhang et al. Measurement of branching fraction and CP asymmetry in $B^+ \rightarrow \rho^+\pi^0$. *Phys. Rev. Lett.*, 94:031801, 2005.
- [136] B. Aubert et al. "Observation of $B^+ \rightarrow \rho^+ K^0$ and measurement of its branching fraction and charge asymmetry". *Phys. Rev. D* **76**, 011103, 2007.
- [137] B. Aubert et al. "Measurement of the CP asymmetry and branching fraction of $B^0 \rightarrow \rho^0 K^0$ ". *Phys. Rev. Lett.* **98**, 051803, 2007.
- [138] B. Aubert et al. "Measurement of the branching fractions, polarizations and direct CP -violation asymmetries in $B \rightarrow \rho K^*$ and $B^0 \rightarrow f_0(980) K^*$ decays.". *Phys. Rev. Lett.* **97**, 201801, 2006.
- [139] K. Abe et al. Measurements of branching fractions and polarization in $B \rightarrow K^*\rho$ decays. *Phys. Rev. Lett.*, 95:141801, 2005.
- [140] S. H. Kyeong et al. Measurements of Charmless Hadronic $b \rightarrow s$ Penguin Decays in the $\pi^+\pi^-K^+\pi^-$ Final State and Observation of $B^0 \rightarrow \rho^0 K^+\pi^-$. *Phys. Rev.*, D80:051103, 2009.
- [141] B. Aubert et al. "Search for the decay of a B^0 or \bar{B}^0 meson to $\bar{K}^{*0} K^0$ or $K^{*0} \bar{K}^0$ ". *Phys. Rev. D* **74**, 072008, 2006.
- [142] B. Aubert et al. "Evidence for $B^+ \rightarrow \bar{K}^{*0} K^{*+}$ ". *Phys. Rev. D* **79**, 051102, 2009.
- [143] B. Aubert et al. "Search for the decay $B^+ \rightarrow \bar{K}^{*0} K^{*+}$ ". *Phys. Rev. D* **76**, 071103, 2007.
- [144] B. Aubert et al. "Observation of $B^0 \rightarrow \chi_{c0} K^{*0}$ and evidence for $B^+ \rightarrow \chi_{c0} K^{*+}$ ". *Phys. Rev. D* **78**, 091101, 2008.
- [145] B. Aubert et al. "Search for the factorization-suppressed $B^0 \rightarrow \chi_{c0} K^{(*)}$ decays.". *Phys. Rev. Lett.* **94**, 171801, 2005.
- [146] B. Aubert et al. "Observation of $B^0 \rightarrow K^{*0} \bar{K}^{*0}$ and search for $B^0 \rightarrow K^{*0} K^{*0}$ ". *Phys. Rev. Lett.* **100**, 081801, 2008.

- [147] C. C. Chiang et al. Search for $B^0 \rightarrow K^{*0} \bar{K}^{*0}$, $B^0 \rightarrow K^{*0} K^{*0}$ and $B^0 \rightarrow K^+ \pi^- K^\mp \pi^\pm$ Decays. *Phys. Rev.*, D81:071101, 2010.
- [148] B. Aubert et al. "Search for $B^0 \rightarrow K^{*+} K^{*-}$ ". *Phys. Rev. D* **78**, 051103, 2008.
- [149] B. Aubert et al. "Measurement of the branching fractions of $B^0 \rightarrow K^{*0} K^+ K^-$, $B^0 \rightarrow K^{*0} \pi^+ K^-$, $B^0 \rightarrow K^{*0} K^+ \pi^-$, and $B^0 \rightarrow K^{*0} \pi^+ \pi^-$ ". *Phys. Rev. D* **76**, 071104, 2007.
- [150] B. Aubert et al. "Branching fraction measurements of charged B decays to $K^{*+} K^+ K^-$, $K^{*+} \pi^+ K^-$, $K^{*+} K^+ \pi^-$, and $K^{*+} \pi^+ \pi^-$ ". *Phys. Rev. D* **74**, 051104, 2006.
- [151] J. H. Chen et al. Observation of B^0 to $p \bar{p} K^{*0}$ with a large K^{*0} polarization. *Phys. Rev. Lett.*, 100:251801, 2008.
- [152] J. T. Wei et al. Study of the decay mechanism for $B^+ \rightarrow p \bar{p} K^+$ and $B^+ \rightarrow p \bar{p} \pi^+$. *Phys. Lett.*, B659:80–86, 2008.
- [153] Y. T. Tsai et al. Search for $B^0 \rightarrow p \bar{p}$, $\Lambda \bar{\Lambda}$ and $B^+ \rightarrow p \bar{\Lambda}$ at Belle. *Phys. Rev.*, D75:111101, 2007.
- [154] B. Aubert et al. "Observation of tree-level B decays with $s\bar{s}$ production from gluon radiation". *Phys. Rev. Lett.* **100**, 171803, 2008.