[21] Combining $\overline{D}^{*0}\ell^+\nu_\ell$ and $\overline{D}^{*-}\ell^+\nu_\ell$ SANGHERA 93 test $V-A$ structure and fit the decay angular distributions to obtain $A_{FB} = 3/4*(\Gamma^- - \Gamma^+)/\Gamma = 0.14 \pm 0.06 \pm 0.03$. Assuming a value of V_{cb}, they measure V, A_1, and A_2, the three form factors for the $D^*\ell\nu_\ell$ decay, where results are slightly dependent on model assumptions.

[22] The measurement of ALBRECHT 89C suggests a D^* polarization γ_L/γ_T of 0.85 ± 0.45. or $\alpha = 0.7 \pm 0.9$.

[23] ALBRECHT 89J is ALBRECHT 87J value rescaled using B($D^*(2010)^- \rightarrow D^0\pi^-$) = $0.57 \pm 0.04 \pm 0.04$. Superseded by ALBRECHT 93.

[24] ALBRECHT 87J assume μ-e universality, the B($\Upsilon(4S) \rightarrow B^0\overline{B}^0$) = 0.45, the B($D^0 \rightarrow K^-\pi^+$) = ($0.042 \pm 0.004 \pm 0.004$), and the B($D^*(2010)^- \rightarrow D^0\pi^-$) = 0.49 ± 0.08. Superseded by ALBRECHT 89J.

$\Gamma(\rho^-\ell^+\nu_\ell)/\Gamma_{\mathrm{total}}$ — Γ_4/Γ

$\ell = e$ or μ, not sum over e and μ modes.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<4.1 × 10^{-4}	90	[25] BEAN	93B	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$

[25] BEAN 93B limit set using ISGW Model. Using isospin and the quark model to combine $\Gamma(\rho^0\ell^+\nu_\ell)$ and $\Gamma(\omega\ell^+\nu_\ell)$ with this result, they obtain a limit $<(1.6\text{–}2.7) \times 10^{-4}$ at 90% CL for $B^+ \rightarrow (\omega$ or $\rho^0)\ell^+\nu_\ell$. The range corresponds to the ISGW, WSB, and KS models. An upper limit on $|V_{ub}/V_{cb}| < 0.8\text{–}0.13$ at 90% CL is derived as well.

$\Gamma(\pi^-\mu^+\nu_\mu)/\Gamma_{\mathrm{total}}$ — Γ_5/Γ

VALUE	DOCUMENT ID		TECN
seen	[26] ALBRECHT	91C	ARG

[26] In ALBRECHT 91C, one event is fully reconstructed providing evidence for the $b \rightarrow u$ transition.

$\Gamma(D^-\pi^+)/\Gamma_{\mathrm{total}}$ — Γ_6/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0030±0.0004 OUR AVERAGE					
0.0029±0.0004±0.0002	81	[27] ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
0.0027±0.0006±0.0005		[28] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
0.0048±0.0011±0.0011	22	[29] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
$0.0051^{+0.0028}_{-0.0025}{}^{+0.0013}_{-0.0012}$	4	[30] BEBEK	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.0031±0.0013±0.0010	7	[29] ALBRECHT	88K	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[27] ALAM 94 reports [B($B^0 \rightarrow D^-\pi^+$) × B($D^+ \rightarrow K^-\pi^+\pi^+$)] = $0.000265 \pm 0.000032 \pm 0.000023$. We divide by our best value B($D^+ \rightarrow K^-\pi^+\pi^+$) = $(9.1 \pm 0.6) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[28] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

[29] ALBRECHT 88K assumes $B^0\overline{B}^0$:B^+B^- production ratio is 45:55. Superseded by ALBRECHT 90J which assumes 50:50.

[30] BEBEK 87 value has been updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92.

$\Gamma(D^-\rho^+)/\Gamma_{\mathrm{total}}$ — Γ_7/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0078±0.0014 OUR AVERAGE					
0.0078±0.0013±0.0005	81	[31] ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
0.009 ±0.005 ±0.003	9	[32] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.022 ±0.012 ±0.009	6	[32] ALBRECHT	88K	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[31] ALAM 94 reports [B($B^0 \rightarrow D^-\rho^+$) × B($D^+ \rightarrow K^-\pi^+\pi^+$)] = $0.000704 \pm 0.000096 \pm 0.000070$. We divide by our best value B($D^+ \rightarrow K^-\pi^+\pi^+$) = $(9.1 \pm 0.6) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[32] ALBRECHT 88K assumes $B^0\overline{B}^0$:B^+B^- production ratio is 45:55. Superseded by ALBRECHT 90J which assumes 50:50.

$\Gamma(\overline{D}^0\pi^+\pi^-)/\Gamma_{\mathrm{total}}$ — Γ_8/Γ

VALUE	CL%	EVTS	DOCUMENT ID		TECN	COMMENT
<0.0016	90		[33] ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •						
<0.007	90		[34] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
<0.034	90		[35] BEBEK	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
0.07 ±0.05		5	[36] BEHRENDS	83	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[33] Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$.

[34] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D. The product branching fraction into $D_0^*(2340)\pi$ followed by $D_0^*(2340) \rightarrow D^0\pi$ is < 0.0001 at 90% CL and into $D_2^*(2460)$ followed by $D_2^*(2460) \rightarrow D^0\pi$ is < 0.0004 at 90% CL.

[35] BEBEK 87 assume the $\Upsilon(4S)$ decays 43% to $B^0\overline{B}^0$. We rescale to 50%. B($D^0 \rightarrow K^-\pi^+$) = ($4.2 \pm 0.4 \pm 0.4$)% and B($D^0 \rightarrow K^-\pi^+\pi^+\pi^-$) = ($9.1 \pm 0.8 \pm 0.8$)% were used.

[36] Corrected by us using assumptions: B($D^0 \rightarrow K^-\pi^+$) = (0.042 ± 0.006) and B($\Upsilon(4S) \rightarrow B^0\overline{B}^0$) = 50%. The product branching ratio is B($B^0 \rightarrow \overline{D}^0\pi^+\pi^-$)B($\overline{D}^0 \rightarrow K^+\pi^-$) = $(0.39 \pm 0.26) \times 10^{-2}$.

$\Gamma(D^*(2010)^-\pi^+)/\Gamma_{\mathrm{total}}$ — Γ_9/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0026 ±0.0004 OUR AVERAGE					
0.0026 ±0.0003 ±0.0004	82	[37] ALAM	94	CLE2	$e^+e^- \rightarrow \Upsilon(4S)$
0.0033 ±0.0010 ±0.0001		[38] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
0.00234±0.00087±0.00005	12	[39] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
$0.00234^{+0.00149}_{-0.00110}\pm0.00005$	5	[40] BEBEK	87	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.0027 ±0.0014 ±0.0010	5	[41] ALBRECHT	87C	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
0.0035 ±0.002 ±0.002		[42] ALBRECHT	86F	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
0.017 ±0.005 ±0.005	41	[43] GILES	84	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[37] ALAM 94 assume equal production of B^+ and B^0 at the $\Upsilon(4S)$ and use the CLEO II B($D^*(2010)^+ \rightarrow D^0\pi^+$) and absolute B($D^0 \rightarrow K^-\pi^+$) and the PDG 1992 B($D^0 \rightarrow K^-\pi^+\pi^0$)/B($D^0 \rightarrow K^-\pi^+$) and B($D^0 \rightarrow K^-\pi^+\pi^+\pi^-$)/B($D^0 \rightarrow K^-\pi^+$).

[38] BORTOLETTO 92 reports $0.0040 \pm 0.0010 \pm 0.0007$ for B($D^*(2010)^+ \rightarrow D^0\pi^+$) = 0.57 ± 0.06. We rescale to our best value B($D^*(2010)^+ \rightarrow D^0\pi^+$) = $(68.1 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

[39] ALBRECHT 90J reports $0.0028 \pm 0.0009 \pm 0.0006$ for B($D^*(2010)^+ \rightarrow D^0\pi^+$) = 0.57 ± 0.06. We rescale to our best value B($D^*(2010)^+ \rightarrow D^0\pi^+$) = $(68.1 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

[40] BEBEK 87 reports $0.0028^{+0.0015}_{-0.0012}{}^{+0.0010}_{-0.0006}$ for B($D^*(2010)^+ \rightarrow D^0\pi^+$) = 0.57 ± 0.06. We rescale to our best value B($D^*(2010)^+ \rightarrow D^0\pi^+$) = $(68.1 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Updated in BERKELMAN 91 to use same assumptions as noted for BORTOLETTO 92 and ALBRECHT 90J.

[41] ALBRECHT 87C use PDG 86 branching ratios for D and $D^*(2010)$ and assume B($\Upsilon(4S) \rightarrow B^+B^-$) = 55% and B($\Upsilon(4S) \rightarrow B^0\overline{B}^0$) = 45%. Superseded by ALBRECHT 90J.

[42] ALBRECHT 86F uses pseudomass that is independent of D^0 and D^+ branching ratios.

[43] Assumes B($D^*(2010)^+ \rightarrow D^0\pi^+$) = $0.60^{+0.08}_{-0.15}$. Assumes B($\Upsilon(4S) \rightarrow B^0\overline{B}^0$) = 0.40 ± 0.02 Does not depend on D branching ratios.

$\Gamma(D^-\pi^+\pi^+\pi^-)/\Gamma_{\mathrm{total}}$ — Γ_{10}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0080±0.0021±0.0014	[44] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[44] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

$\Gamma((D^-\pi^+\pi^+\pi^-)\ \mathrm{nonresonant})/\Gamma_{\mathrm{total}}$ — Γ_{11}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0039±0.0014±0.0013	[45] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[45] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

$\Gamma(D^-\pi^+\rho^0)/\Gamma_{\mathrm{total}}$ — Γ_{12}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0011±0.0009±0.0004	[46] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[46] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

$\Gamma(D^-a_1(1260)^+)/\Gamma_{\mathrm{total}}$ — Γ_{13}/Γ

VALUE	DOCUMENT ID		TECN	COMMENT
0.0060±0.0022±0.0024	[47] BORTOLETTO	92	CLEO	$e^+e^- \rightarrow \Upsilon(4S)$

[47] BORTOLETTO 92 assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

$\Gamma(D^*(2010)^-\pi^+\pi^0)/\Gamma_{\mathrm{total}}$ — Γ_{14}/Γ

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.0151±0.0051±0.0003	51	[48] ALBRECHT	90J	ARG	$e^+e^- \rightarrow \Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.015 ±0.008 ±0.008	8	[49] ALBRECHT	87C	ARG	$e^+e^- \rightarrow \Upsilon(4S)$

[48] ALBRECHT 90J reports $0.018 \pm 0.004 \pm 0.005$ for B($D^*(2010)^+ \rightarrow D^0\pi^+$) = 0.57 ± 0.06. We rescale to our best value B($D^*(2010)^+ \rightarrow D^0\pi^+$) = $(68.1 \pm 1.3) \times 10^{-2}$. Our first error is their experiment's error and our second error is the systematic error from using our best value. Assumes equal production of B^+ and B^0 at the $\Upsilon(4S)$ and uses Mark III branching fractions for the D.

[49] ALBRECHT 87C use PDG 86 branching ratios for D and $D^*(2010)$ and assume B($\Upsilon(4S) \rightarrow B^+B^-$) = 55% and B($\Upsilon(4S) \rightarrow B^0\overline{B}^0$) = 45%. Superseded by ALBRECHT 90J.