τ – THIS IS PART 4 OF 4

To reduce the size of this section's PostScript file, we have divided it into four PostScript files. We present the following index:

PART 1

PART 2

PART 3

PART 4

$\Gamma(h^- \omega \nu_\tau)/\Gamma(h^- h^- h^+ \pi^0 \nu_\tau (\text{ex.}K^0))$ Γ_{125}/Γ_{61}

$\Gamma_{125}/\Gamma_{61} = \Gamma_{125}/(\Gamma_{65}+\Gamma_{81}+\Gamma_{85}+0.888\Gamma_{125}+0.0221\Gamma_{126})$

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.448±0.015 OUR FIT					
0.453±0.019 OUR AVERAGE					
0.431±0.033	2350	[162] BUSKULIC	96	ALEP	LEP 1991–1993 data
0.464±0.016±0.017	2223	[163] BALEST	95C	CLEO	$E^{ee}_{cm} \approx$ 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.37 ±0.05 ±0.02	458	[164] ALBRECHT	91D	ARG	E^{ee}_{cm}= 9.4–10.6 GeV

[162] BUSKULIC 96 quote the fraction of $\tau \rightarrow h^- h^- h^+ \pi^0 \nu_\tau$ (ex. K^0) decays which originate in a $h^- \omega$ final state = 0.383 ± 0.029. We divide this by the $\omega(782) \rightarrow \pi^+ \pi^- \pi^0$ branching fraction (0.888).

[163] BALEST 95C quote the fraction of $\tau^- \rightarrow h^- h^- h^+ \pi^0 \nu_\tau$ (ex. K^0) decays which originate in a $h^- \omega$ final state equals 0.412 ± 0.014 ± 0.015. We divide this by the $\omega(782) \rightarrow \pi^+ \pi^- \pi^0$ branching fraction (0.888).

[164] ALBRECHT 91D quote the fraction of $\tau^- \rightarrow h^- h^- h^+ \pi^0 \nu_\tau$ decays which originate in a $\pi^- \omega$ final state equals 0.33 ± 0.04 ± 0.02. We divide this by the $\omega(782) \rightarrow \pi^+ \pi^- \pi^0$ branching fraction (0.888).

$\Gamma(h^- \omega \pi^0 \nu_\tau)/\Gamma_{\text{total}}$ Γ_{126}/Γ

VALUE (%)	EVTS	DOCUMENT ID		TECN	COMMENT
0.43±0.05 OUR FIT					
0.43±0.06±0.05	7283	BUSKULIC	97C	ALEP	1991–1994 LEP runs

$\Gamma(h^- \omega 2\pi^0 \nu_\tau)/\Gamma_{\text{total}}$ Γ_{127}/Γ

VALUE (units 10^{-4})	EVTS	DOCUMENT ID		TECN	COMMENT
$\mathbf{1.89^{+0.74}_{-0.67}\pm0.40}$	19	ANDERSON	97	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(h^- \omega \pi^0 \nu_\tau)/\Gamma(h^- h^- h^+ \geq 0\text{neut. } \nu_\tau (\text{"3-prong"}))$ Γ_{126}/Γ_{49}

$\Gamma_{126}/\Gamma_{49} = \Gamma_{126}/(0.3431\Gamma_{32}+0.3431\Gamma_{34}+0.3431\Gamma_{36}+0.3431\Gamma_{38}+0.4508\Gamma_{41}+\Gamma_{57}+\Gamma_{65}+\Gamma_{73}+\Gamma_{74}+\Gamma_{79}+\Gamma_{81}+\Gamma_{84}+\Gamma_{85}+0.285\Gamma_{110}+0.9101\Gamma_{125}+0.9101\Gamma_{126})$

Data marked "avg" are highly correlated with data appearing elsewhere in the Listings, and are therefore used for the average given below but not in the overall fits. "f&a" marks results used for the fit and the average.

VALUE		EVTS	DOCUMENT ID	TECN	COMMENT
0.0283±0.0031 OUR FIT					
0.028 ±0.003 ±0.003	**avg**	430	[165] BORTOLETTO93	CLEO	$E^{ee}_{cm} \approx$ 10.6 GeV

[165] Not independent of BORTOLETTO 93 $\Gamma(\tau^- \rightarrow h^- \omega \pi^0 \nu_\tau)/\Gamma(\tau^- \rightarrow h^- h^- h^+ 2\pi^0 \nu_\tau (\text{ex.}K^0))$ value.

$\Gamma(h^- \omega \pi^0 \nu_\tau)/\Gamma(h^- h^- h^+ 2\pi^0 \nu_\tau (\text{ex.}K^0))$ Γ_{126}/Γ_{72}

$\Gamma_{126}/\Gamma_{72} = \Gamma_{126}/(\Gamma_{73}+0.236\Gamma_{110}+0.888\Gamma_{126})$

VALUE	DOCUMENT ID	TECN	COMMENT
0.81±0.08 OUR FIT			
0.81±0.06±0.06	BORTOLETTO93	CLEO	$E^{ee}_{cm} \approx$ 10.6 GeV

$\Gamma(e^-\gamma)/\Gamma_{total}$ — Γ_{128}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.7 × 10⁻⁶	90	EDWARDS	97	CLEO	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.1\times10^{-4}$	90	ABREU	95U	DLPH	1990–1993 LEP runs
$<1.2\times10^{-4}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<2.0\times10^{-4}$	90	KEH	88	CBAL	E^{ee}_{cm}= 10 GeV
$<6.4\times10^{-4}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

$\Gamma(\mu^-\gamma)/\Gamma_{total}$ — Γ_{129}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.0\times10^{-6}$	90	EDWARDS	97	CLEO	
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<6.2\times10^{-5}$	90	ABREU	95U	DLPH	1990–1993 LEP runs
$<0.42\times10^{-5}$	90	BEAN	93	CLEO	E^{ee}_{cm}= 10.6 GeV
$<3.4\times10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<55\times10^{-5}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

$\Gamma(e^-\pi^0)/\Gamma_{total}$ — Γ_{130}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.7\times10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<17\times10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<14\times10^{-5}$	90	KEH	88	CBAL	E^{ee}_{cm}= 10 GeV
$<210\times10^{-5}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

$\Gamma(\mu^-\pi^0)/\Gamma_{total}$ — Γ_{131}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<4.0\times10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<4.4\times10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<82\times10^{-5}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

$\Gamma(e^-K^0)/\Gamma_{total}$ — Γ_{132}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.3\times10^{-3}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

$\Gamma(\mu^-K^0)/\Gamma_{total}$ — Γ_{133}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.0\times10^{-3}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

$\Gamma(e^- \eta)/\Gamma_{total}$ — Γ_{134}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 8.2 \times 10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 6.3 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<24 \times 10^{-5}$	90	KEH	88	CBAL	E^{ee}_{cm}= 10 GeV

$\Gamma(\mu^- \eta)/\Gamma_{total}$ — Γ_{135}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<9.6 \times 10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<7.3 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV

$\Gamma(e^- \rho^0)/\Gamma_{total}$ — Γ_{136}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 2.0 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 0.42 \times 10^{-5}$	90	[166] BARTELT	94	CLEO	Repl. by BLISS 98
$< 1.9 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<37 \times 10^{-5}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

[166] BARTELT 94 assume phase space decays.

$\Gamma(\mu^- \rho^0)/\Gamma_{total}$ — Γ_{137}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 6.3 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 0.57 \times 10^{-5}$	90	[167] BARTELT	94	CLEO	Repl. by BLISS 98
$< 2.9 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<44 \times 10^{-5}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

[167] BARTELT 94 assume phase space decays.

$\Gamma(e^- K^*(892)^0)/\Gamma_{total}$ — Γ_{138}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<5.1 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<0.63 \times 10^{-5}$	90	[168] BARTELT	94	CLEO	Repl. by BLISS 98
$<3.8 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV

[168] BARTELT 94 assume phase space decays.

$\Gamma(\mu^- K^*(892)^0)/\Gamma_{total}$ — Γ_{139}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7.5 × 10^{-6}	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.94 × 10^{-5}	90	[169] BARTELT	94	CLEO	Repl. by BLISS 98
<4.5 × 10^{-5}	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV

[169] BARTELT 94 assume phase space decays.

$\Gamma(e^- \overline{K}^*(892)^0)/\Gamma_{total}$ — Γ_{140}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7.4 × 10^{-6}	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<1.1 × 10^{-5}	90	[170] BARTELT	94	CLEO	Repl. by BLISS 98

[170] BARTELT 94 assume phase space decays.

$\Gamma(\mu^- \overline{K}^*(892)^0)/\Gamma_{total}$ — Γ_{141}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7.5 × 10^{-6}	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.87 × 10^{-5}	90	[171] BARTELT	94	CLEO	Repl. by BLISS 98

[171] BARTELT 94 assume phase space decays.

$\Gamma(e^- \phi)/\Gamma_{total}$ — Γ_{142}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<6.9 × 10^{-6}	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(\mu^- \phi)/\Gamma_{total}$ — Γ_{143}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<7.0 × 10^{-6}	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(\pi^- \gamma)/\Gamma_{total}$ — Γ_{144}/Γ

Test of lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<28 × 10^{-5}	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV

$\Gamma(\pi^- \pi^0)/\Gamma_{total}$ — Γ_{145}/Γ

Test of lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<37 × 10^{-5}	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV

$\Gamma(e^- e^+ e^-)/\Gamma_{total}$ — Γ_{146}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 2.9 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 0.33 \times 10^{-5}$	90	[172] BARTELT	94	CLEO	Repl. by BLISS 98
$< 1.3 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$< 2.7 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9
$<40 \times 10^{-5}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

[172] BARTELT 94 assume phase space decays.

$\Gamma(e^- \mu^+ \mu^-)/\Gamma_{total}$ — Γ_{147}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 1.8 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 0.36 \times 10^{-5}$	90	[173] BARTELT	94	CLEO	Repl. by BLISS 98
$< 1.9 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$< 2.7 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9
$<33 \times 10^{-5}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

[173] BARTELT 94 assume phase space decays.

$\Gamma(e^+ \mu^- \mu^-)/\Gamma_{total}$ — Γ_{148}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<1.5 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<0.35 \times 10^{-5}$	90	[174] BARTELT	94	CLEO	Repl. by BLISS 98
$<1.8 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<1.6 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[174] BARTELT 94 assume phase space decays.

$\Gamma(\mu^- e^+ e^-)/\Gamma_{total}$ — Γ_{149}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 1.7 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 0.34 \times 10^{-5}$	90	[175] BARTELT	94	CLEO	Repl. by BLISS 98
$< 1.4 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$< 2.7 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9
$<44 \times 10^{-5}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

[175] BARTELT 94 assume phase space decays.

$\Gamma(\mu^+ e^- e^-)/\Gamma_{total}$ — Γ_{150}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.5 × 10⁻⁶	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<0.34 \times 10^{-5}$	90	[176] BARTELT	94	CLEO	Repl. by BLISS 98
$<1.4 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<1.6 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[176] BARTELT 94 assume phase space decays.

$\Gamma(\mu^- \mu^+ \mu^-)/\Gamma_{total}$ — Γ_{151}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
< 1.9 × 10⁻⁶	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 0.43 \times 10^{-5}$	90	[177] BARTELT	94	CLEO	Repl. by BLISS 98
$< 1.9 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$< 1.7 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9
$<49 \times 10^{-5}$	90	HAYES	82	MRK2	E^{ee}_{cm}= 3.8–6.8 GeV

[177] BARTELT 94 assume phase space decays.

$\Gamma(e^- \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{152}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<2.2 × 10⁻⁶	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<0.44 \times 10^{-5}$	90	[178] BARTELT	94	CLEO	Repl. by BLISS 98
$<2.7 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<6.0 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[178] BARTELT 94 assume phase space decays.

$\Gamma(e^+ \pi^- \pi^-)/\Gamma_{total}$ — Γ_{153}/Γ

Test of lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<1.9 × 10⁻⁶	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<0.44 \times 10^{-5}$	90	[179] BARTELT	94	CLEO	Repl. by BLISS 98
$<1.8 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<1.7 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[179] BARTELT 94 assume phase space decays.

$\Gamma(\mu^- \pi^+ \pi^-)/\Gamma_{total}$ — Γ_{154}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<8.2 × 10⁻⁶	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV

• • • We do not use the following data for averages, fits, limits, etc. • • •

$<0.74 \times 10^{-5}$	90	[180] BARTELT	94	CLEO	Repl. by BLISS 98
$<3.6 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<3.9 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[180] BARTELT 94 assume phase space decays.

$\Gamma(\mu^+\pi^-\pi^-)/\Gamma_{total}$ Γ_{155}/Γ

Test of lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.4 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<0.69 \times 10^{-5}$	90	[181] BARTELT	94	CLEO	Repl. by BLISS 98
$<6.3 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<3.9 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[181] BARTELT 94 assume phase space decays.

$\Gamma(e^-\pi^+K^-)/\Gamma_{total}$ Γ_{156}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.4 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<0.77 \times 10^{-5}$	90	[182] BARTELT	94	CLEO	Repl. by BLISS 98
$<2.9 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<5.8 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[182] BARTELT 94 assume phase space decays.

$\Gamma(e^-\pi^-K^+)/\Gamma_{total}$ Γ_{157}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.8 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<0.46 \times 10^{-5}$	90	[183] BARTELT	94	CLEO	Repl. by BLISS 98
$<5.8 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[183] BARTELT 94 assume phase space decays.

$\Gamma(e^+\pi^-K^-)/\Gamma_{total}$ Γ_{158}/Γ

Test of lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<2.1 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<0.45 \times 10^{-5}$	90	[184] BARTELT	94	CLEO	Repl. by BLISS 98
$<2.0 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<4.9 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[184] BARTELT 94 assume phase space decays.

$\Gamma(e^- K^+ K^-)/\Gamma_{total}$ — Γ_{159}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<6.0 × 10⁻⁶	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(e^+ K^- K^-)/\Gamma_{total}$ — Γ_{160}/Γ

Test of lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<3.8 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(\mu^- \pi^+ K^-)/\Gamma_{total}$ — Γ_{161}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$< 7.5 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$< 0.87 \times 10^{-5}$	90	[185] BARTELT	94	CLEO	Repl. by BLISS 98
$<11 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$< 7.7 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[185] BARTELT 94 assume phase space decays.

$\Gamma(\mu^- \pi^- K^+)/\Gamma_{total}$ — Γ_{162}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<7.4 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<1.5 \times 10^{-5}$	90	[186] BARTELT	94	CLEO	Repl. by BLISS 98
$<7.7 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[186] BARTELT 94 assume phase space decays.

$\Gamma(\mu^+ \pi^- K^-)/\Gamma_{total}$ — Γ_{163}/Γ

Test of lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<7.0 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
$<2.0 \times 10^{-5}$	90	[187] BARTELT	94	CLEO	Repl. by BLISS 98
$<5.8 \times 10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV
$<4.0 \times 10^{-5}$	90	BOWCOCK	90	CLEO	E^{ee}_{cm}= 10.4–10.9

[187] BARTELT 94 assume phase space decays.

$\Gamma(\mu^- K^+ K^-)/\Gamma_{total}$ — Γ_{164}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<15 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(\mu^+ K^- K^-)/\Gamma_{total}$ — Γ_{165}/Γ

Test of lepton number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.0 \times 10^{-6}$	90	BLISS	98	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(e^-\pi^0\pi^0)/\Gamma_{total}$ — Γ_{166}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<6.5\times10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(\mu^-\pi^0\pi^0)/\Gamma_{total}$ — Γ_{167}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<14\times10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(e^-\eta\eta)/\Gamma_{total}$ — Γ_{168}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<35\times10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(\mu^-\eta\eta)/\Gamma_{total}$ — Γ_{169}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<60\times10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(e^-\pi^0\eta)/\Gamma_{total}$ — Γ_{170}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<24\times10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(\mu^-\pi^0\eta)/\Gamma_{total}$ — Γ_{171}/Γ

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<22\times10^{-6}$	90	BONVICINI	97	CLEO	E^{ee}_{cm}= 10.6 GeV

$\Gamma(\overline{p}\gamma)/\Gamma_{total}$ — Γ_{172}/Γ

Test of lepton number and baryon number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<29\times10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV

$\Gamma(\overline{p}\pi^0)/\Gamma_{total}$ — Γ_{173}/Γ

Test of lepton number and baryon number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<66\times10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV

$\Gamma(\overline{p}\eta)/\Gamma_{total}$ — Γ_{174}/Γ

Test of lepton number and baryon number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
$<130\times10^{-5}$	90	ALBRECHT	92K	ARG	E^{ee}_{cm}= 10 GeV

$\Gamma(e^-\text{ light boson})/\Gamma(e^-\overline{\nu}_e\nu_\tau)$ Γ_{175}/Γ_5

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.015	95	[188] ALBRECHT	95G	ARG	E^{ee}_{cm}= 9.4–10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.018	95	[189] ALBRECHT	90E	ARG	E^{ee}_{cm}= 9.4–10.6 GeV
<0.040	95	[190] BALTRUSAIT...	85	MRK3	E^{ee}_{cm}= 3.77 GeV

[188] ALBRECHT 95G limit holds for bosons with mass < 0.4 GeV. The limit rises to 0.036 for a mass of 1.0 GeV, then falls to 0.006 at the upper mass limit of 1.6 GeV.
[189] ALBRECHT 90E limit applies for spinless boson with mass < 100 MeV, and rises to 0.050 for mass = 500 MeV.
[190] BALTRUSAITIS 85 limit applies for spinless boson with mass < 100 MeV.

$\Gamma(\mu^-\text{ light boson})/\Gamma(e^-\overline{\nu}_e\nu_\tau)$ Γ_{176}/Γ_5

Test of lepton family number conservation.

VALUE	CL%	DOCUMENT ID		TECN	COMMENT
<0.026	95	[191] ALBRECHT	95G	ARG	E^{ee}_{cm}= 9.4–10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
<0.033	95	[192] ALBRECHT	90E	ARG	E^{ee}_{cm}= 9.4–10.6 GeV
<0.125	95	[193] BALTRUSAIT...	85	MRK3	E^{ee}_{cm}= 3.77 GeV

[191] ALBRECHT 95G limit holds for bosons with mass < 1.3 GeV. The limit rises to 0.034 for a mass of 1.4 GeV, then falls to 0.003 at the upper mass limit of 1.6 GeV.
[192] ALBRECHT 90E limit applies for spinless boson with mass < 100 MeV, and rises to 0.071 for mass = 500 MeV.
[193] BALTRUSAITIS 85 limit applies for spinless boson with mass < 100 MeV.

τ-DECAY PARAMETERS

Written April 1996 by D.E. Groom (LBNL).

Neglecting radiative corrections and terms proportional to m^2_ℓ/m^2_τ, the energy spectrum of the charged decay lepton ℓ in the τ rest frame is given by

$$\frac{d^2\Gamma_{\tau\to\ell\nu\overline{\nu}}}{d\Omega\,dx} \propto x^2 \times\left\{12(1-x)+\rho_\tau\left(\frac{32}{3}x-8\right)+24\eta_\tau\,\frac{m_\ell}{m_\tau}\,\frac{(1-x)}{x} -P_\tau\,\xi_\tau\cos\theta\,\left[4(1-x)+\delta_\tau\left(\frac{32}{3}x-8\right)\right]\right\}. \qquad (1)$$

Here $x = 2E_\ell/m_\tau$ is the scaled lepton energy, P_τ is the τ polarization, and θ is the angle between the τ spin and the lepton momentum. With unpolarized τ's or integrating over the full θ range, the spectrum depends only on ρ_τ and η_τ. Measurements of the other two Michel parameters, ξ_τ and δ_τ, require polarized τ's. The Standard Model predicitions for ρ_τ, η_τ, ξ_τ and δ_τ are $\frac{3}{4}$, 0, 1 and $\frac{3}{4}$. Where possible, we give separately the parameters for $\tau^- \to e^- \nu_\tau \overline{\nu}_e$ and $\tau^- \to \mu^- \nu_\tau \overline{\nu}_\mu$, to avoid assumptions about universality. Listings labelled "(e or μ)" contain either the results assuming lepton universality if quoted by the experiments or repeat the results from the "e" or "μ" section.

Hadronic two-body decays $\tau \to \nu_\tau h$, $h = \pi$, ρ, a_1, ..., can under minimal assumptions be written

$$\frac{1}{\Gamma}\frac{d\Gamma}{dz} = f_h(z) + P_\tau\, \xi_h\, g_h(z) \ , \tag{2}$$

where the kinematic functions f_h, g_h and the definition of the variable z depend on the spin of the hadron h. For the simple case $h = \pi$, one has $z = E_\pi/E_\tau$, $f(z) = 1$, and $g(z) = 2z - 1$. The parameter ξ_h is predicted to be unity and can be identified with twice the negative ν_τ helicity. Again ξ_h is listed, when available, separately for each hadron and averaged over all hadronic decays modes.

ρ^τ(*e* or μ) PARAMETER

($V-A$) theory predicts $\rho = 0.75$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.748±0.010 OUR AVERAGE					
0.72 ±0.09 ±0.03		[194] ABE	97O	SLD	1993–1995 SLC runs
0.747±0.010±0.006	55k	ALEXANDER	97F	CLEO	E^{ee}_{cm}= 10.6 GeV
0.794±0.039±0.031	18k	ACCIARRI	96H	L3	1991–1993 LEP runs
0.738±0.038		[195] ALBRECHT	95C	ARG	E^{ee}_{cm}= 9.5–10.6 GeV
0.751±0.039±0.022		BUSKULIC	95D	ALEP	1990–1992 LEP runs
0.79 ±0.10 ±0.10	3732	FORD	87B	MAC	E^{ee}_{cm}= 29 GeV
0.71 ±0.09 ±0.03	1426	BEHRENDS	85	CLEO	e^+e^- near $\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.735±0.013±0.008	31k	AMMAR	97B	CLEO	Repl. by ALEXANDER 97F
0.732±0.034±0.020	8.2k	[196] ALBRECHT	95	ARG	E^{ee}_{cm}= 9.5–10.6 GeV
0.742±0.035±0.020	8000	ALBRECHT	90E	ARG	E^{ee}_{cm}= 9.4–10.6 GeV

[194] ABE 97O assume $\eta^\tau = 0$ in their fit. Letting η^τ vary in the fit gives a ρ^τ value of $0.69 \pm 0.13 \pm 0.05$.
[195] Combined fit to ARGUS tau decay parameter measurements in ALBRECHT 95C, ALBRECHT 93G, and ALBRECHT 94E.
[196] Value is from a simultaneous fit for the ρ^τ and η^τ decay parameters to the lepton energy spectrum. Not independent of ALBRECHT 90E ρ^τ(e or μ) value which assumes η^τ=0. Result is strongly correlated with ALBRECHT 95C.

$\rho^\tau(e)$ PARAMETER

($V-A$) theory predicts $\rho = 0.75$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.745±0.012 OUR AVERAGE					
0.71 ±0.14 ±0.05		ABE	97O	SLD	1993–1995 SLC runs
0.747±0.012±0.004	34k	ALEXANDER	97F	CLEO	E^{ee}_{cm}= 10.6 GeV
0.735±0.036±0.020	4.7k	[197] ALBRECHT	95	ARG	E^{ee}_{cm}= 9.5–10.6 GeV
0.793±0.050±0.025		BUSKULIC	95D	ALEP	1990–1992 LEP runs
0.79 ±0.08 ±0.06	3230	[198] ALBRECHT	93G	ARG	E^{ee}_{cm}= 9.4–10.6 GeV
0.64 ±0.06 ±0.07	2753	JANSSEN	89	CBAL	E^{ee}_{cm}= 9.4–10.6 GeV
0.62 ±0.17 ±0.14	1823	FORD	87B	MAC	E^{ee}_{cm}= 29 GeV
0.60 ±0.13	699	BEHRENDS	85	CLEO	e^+e^- near $\Upsilon(4S)$
0.72 ±0.10 ±0.11	594	BACINO	79B	DLCO	E^{ee}_{cm}= 3.5–7.4 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.732±0.014±0.009	19k	AMMAR	97B	CLEO	Repl. by ALEXANDER 97F
0.747±0.045±0.028	5106	ALBRECHT	90E	ARG	Repl. by ALBRECHT 95

[197] ALBRECHT 95 use tau pair events of the type $\tau^-\tau^+ \rightarrow (\ell^-\overline{\nu}_\ell\nu_\tau)(h^+h^-h^+(\pi^0)\overline{\nu}_\tau)$ and their charged conjugates.
[198] ALBRECHT 93G use tau pair events of the type $\tau^-\tau^+ \rightarrow (\mu^-\overline{\nu}_\mu\nu_\tau)(e^+\nu_e\overline{\nu}_\tau)$ and their charged conjugates.

$\rho^\tau(\mu)$ PARAMETER

($V-A$) theory predicts $\rho = 0.75$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.741±0.030 OUR AVERAGE					
0.54 ±0.28 ±0.14		ABE	97O	SLD	1993–1995 SLC runs
0.750±0.017±0.045	22k	ALEXANDER	97F	CLEO	E^{ee}_{cm}= 10.6 GeV
0.693±0.057±0.028		BUSKULIC	95D	ALEP	1990–1992 LEP runs
0.76 ±0.07 ±0.08	3230	ALBRECHT	93G	ARG	E^{ee}_{cm}= 9.4–10.6 GeV
0.734±0.055±0.027	3041	ALBRECHT	90E	ARG	E^{ee}_{cm}= 9.4–10.6 GeV
0.89 ±0.14 ±0.08	1909	FORD	87B	MAC	E^{ee}_{cm}= 29 GeV
0.81 ±0.13	727	BEHRENDS	85	CLEO	e^+e^- near $\Upsilon(4S)$
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.747±0.048±0.044	13k	AMMAR	97B	CLEO	Repl. by ALEXANDER 97F

ξ^τ(*e* or μ) PARAMETER

($V-A$) theory predicts $\xi = 1$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.01 ±0.04 OUR AVERAGE					
1.05 ±0.35 ±0.04		[199] ABE	97O	SLD	1993–1995 SLC runs
1.007±0.040±0.015	55k	ALEXANDER	97F	CLEO	E^{ee}_{cm}= 10.6 GeV
0.94 ±0.21 ±0.07	18k	ACCIARRI	96H	L3	1991–1993 LEP runs
0.97 ±0.14		[200] ALBRECHT	95C	ARG	E^{ee}_{cm}= 9.5–10.6 GeV
1.18 ±0.15 ±0.16		BUSKULIC	95D	ALEP	1990–1992 LEP runs
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.90 ±0.15 ±0.10	3230	[201] ALBRECHT	93G	ARG	E^{ee}_{cm}= 9.4–10.6 GeV

[199] ABE 97O assume $\eta^\tau = 0$ in their fit. Letting η^τ vary in the fit gives a ξ^τ value of $1.02 \pm 0.36 \pm 0.05$.

[200] Combined fit to ARGUS tau decay parameter measurements in ALBRECHT 95C, ALBRECHT 93G, and ALBRECHT 94E. ALBRECHT 95C uses events of the type $\tau^- \tau^+ \rightarrow (\ell^- \overline{\nu}_\ell \nu_\tau)(h^+ h^- h^+ \overline{\nu}_\tau)$ and their charged conjugates.

[201] ALBRECHT 93G measurement determines $|\xi^\tau|$ for the case $\xi^\tau(e) = \xi^\tau(\mu)$, but the authors point out that other LEP experiments determine the sign to be positive.

ξ^τ(*e*) PARAMETER

($V-A$) theory predicts $\xi = 1$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.98 ±0.05 OUR AVERAGE					
1.16 ±0.52 ±0.06		ABE	97O	SLD	1993–1995 SLC runs
0.979±0.048±0.016	34k	ALEXANDER	97F	CLEO	E^{ee}_{cm}= 10.6 GeV
1.03 ±0.23 ±0.09		BUSKULIC	95D	ALEP	1990–1992 LEP runs

ξ^τ(μ) PARAMETER

($V-A$) theory predicts $\xi = 1$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.07 ±0.08 OUR AVERAGE					
0.75 ±0.50 ±0.14		ABE	97O	SLD	1993–1995 SLC runs
1.054±0.069±0.047	22k	ALEXANDER	97F	CLEO	E^{ee}_{cm}= 10.6 GeV
1.23 ±0.22 ±0.10		BUSKULIC	95D	ALEP	1990–1992 LEP runs

η^τ(*e* or μ) PARAMETER

($V-A$) theory predicts $\eta = 0$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.01 ±0.07 OUR AVERAGE					
−0.13 ±0.47 ±0.15		ABE	97O	SLD	1993–1995 SLC runs
−0.015±0.061±0.062	31k	AMMAR	97B	CLEO	E^{ee}_{cm}= 10.6 GeV
0.25 ±0.17 ±0.11	18k	ACCIARRI	96H	L3	1991–1993 LEP runs
0.03 ±0.18 ±0.12	8.2k	ALBRECHT	95	ARG	E^{ee}_{cm}= 9.5–10.6 GeV
−0.04 ±0.15 ±0.11		BUSKULIC	95D	ALEP	1990–1992 LEP runs

$\eta^\tau(\mu)$ PARAMETER

($V-A$) theory predicts $\eta = 0$.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
−0.10 ±0.18 OUR AVERAGE				
−0.59 ±0.82 ±0.45		[202] ABE 97O	SLD	1993–1995 SLC runs
0.010±0.149±0.171	13k	[203] AMMAR 97B	CLEO	E^{ee}_{cm}= 10.6 GeV
−0.24 ±0.23 ±0.18		BUSKULIC 95D	ALEP	1990–1992 LEP runs

[202] Highly correlated (corr. = 0.92) with ABE 97O $\rho^\tau(\mu)$ measurement.
[203] Highly correlated (corr. = 0.949) with AMMAR 97B $\rho^\tau(\mu)$ value.

$(\delta\xi)^\tau$(e or μ) PARAMETER

($V-A$) theory predicts $(\delta\xi) = 0.75$.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.749±0.026 OUR AVERAGE				
0.88 ±0.27 ±0.04		[204] ABE 97O	SLD	1993–1995 SLC runs
0.745±0.026±0.009	55k	ALEXANDER 97F	CLEO	E^{ee}_{cm}= 10.6 GeV
0.81 ±0.14 ±0.06	18k	ACCIARRI 96H	L3	1991–1993 LEP runs
0.65 ±0.12		[205] ALBRECHT 95C	ARG	E^{ee}_{cm}= 9.5–10.6 GeV
0.88 ±0.11 ±0.07		BUSKULIC 95D	ALEP	1990–1992 LEP runs

[204] ABE 97O assume $\eta^\tau = 0$ in their fit. Letting η^τ vary in the fit gives a $(\rho\xi)^\tau$ value of 0.87 ± 0.27 ± 0.04.
[205] Combined fit to ARGUS tau decay parameter measurements in ALBRECHT 95C, ALBRECHT 93G, and ALBRECHT 94E. ALBRECHT 95C uses events of the type $\tau^-\tau^+ \rightarrow (\ell^-\overline{\nu}_\ell\nu_\tau)(h^+h^-h^+\overline{\nu}_\tau)$ and their charged conjugates.

$(\delta\xi)^\tau(e)$ PARAMETER

($V-A$) theory predicts $(\delta\xi) = 0.75$.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.733±0.033 OUR AVERAGE				
0.85 ±0.43 ±0.08		ABE 97O	SLD	1993–1995 SLC runs
0.720±0.032±0.010	34k	ALEXANDER 97F	CLEO	E^{ee}_{cm}= 10.6 GeV
1.11 ±0.17 ±0.07		BUSKULIC 95D	ALEP	1990–1992 LEP runs

$(\delta\xi)^\tau(\mu)$ PARAMETER

($V-A$) theory predicts $(\delta\xi) = 0.75$.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.78 ±0.05 OUR AVERAGE				
0.82 ±0.32 ±0.07		ABE 97O	SLD	1993–1995 SLC runs
0.786±0.041±0.032	22k	ALEXANDER 97F	CLEO	E^{ee}_{cm}= 10.6 GeV
0.71 ±0.14 ±0.06		BUSKULIC 95D	ALEP	1990–1992 LEP runs

$\xi^\tau(\pi)$ PARAMETER

($V-A$) theory predicts $\xi^\tau(\pi) = 1$.

VALUE	EVTS	DOCUMENT ID	TECN	COMMENT
0.99 ±0.05 OUR AVERAGE				
0.81 ±0.17 ±0.02		ABE 97O	SLD	1993–1995 SLC runs
1.03 ±0.06 ±0.04	2.0k	COAN 97	CLEO	E^{ee}_{cm}= 10.6 GeV
0.987±0.057±0.027		BUSKULIC 95D	ALEP	1990–1992 LEP runs
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.95 ±0.11 ±0.05		[206] BUSKULIC 94D	ALEP	1990+1991 LEP run

[206] Superseded by BUSKULIC 95D.

$\xi^\tau(\rho)$ PARAMETER

$(V-A)$ theory predicts $\xi^\tau(\rho) = 1$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.996±0.010 OUR AVERAGE					
0.99 ±0.12 ±0.04		ABE	97O	SLD	1993–1995 SLC runs
0.995±0.010±0.003	66k	ALEXANDER	97F	CLEO	E^{ee}_{cm}= 10.6 GeV
1.045±0.058±0.032		BUSKULIC	95D	ALEP	1990–1992 LEP runs
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.03 ±0.11 ±0.05		[207] BUSKULIC	94D	ALEP	1990+1991 LEP run

[207] Superseded by BUSKULIC 95D.

$\xi^\tau(a_1)$ PARAMETER

$(V-A)$ theory predicts $\xi^\tau(a_1) = 1$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
1.02 ±0.04 OUR AVERAGE					
1.29 ±0.26 ±0.11	7.4k	[208] ACKERSTAFF	97R	OPAL	1992–1994 LEP runs
1.017±0.039		ALBRECHT	95C	ARG	E^{ee}_{cm}= 9.5–10.6 GeV
0.937±0.116±0.064		BUSKULIC	95D	ALEP	1990–1992 LEP runs
• • • We do not use the following data for averages, fits, limits, etc. • • •					
1.08 $^{+0.46}_{-0.41}$ $^{+0.14}_{-0.25}$	2.6k	[209] AKERS	95P	OPAL	Repl. by ACKERSTAFF 97R
1.022±0.028±0.030	1.7k	[210] ALBRECHT	94E	ARG	E^{ee}_{cm}= 9.4–10.6 GeV
1.25 ±0.23 $^{+0.15}_{-0.08}$	7.5k	ALBRECHT	93C	ARG	E^{ee}_{cm}= 9.4–10.6 GeV

[208] ACKERSTAFF 97R obtain this result with a model independent fit to the hadronic structure functions. Fitting with the model of Kuhn and Santamaria (ZPHY **C48**, 445 (1990)) gives 0.87 ± 0.16 ± 0.04, and with the model of of Isgur *et al.* (PR **D39**,1357 (1989)) they obtain 1.20 ± 0.21 ± 0.14.

[209] AKERS 95P obtain this result with a model independent fit to the hadronic structure functions. Fitting with the model of Kuhn and Santamaria (ZPHY **C48**, 445 (1990)) gives $0.87 \pm 0.27^{+0.05}_{-0.06}$, and with the model of of Isgur *et al.* (PR **D39**,1357 (1989)) they obtain $1.10 \pm 0.31^{+0.13}_{-0.14}$.

[210] ALBRECHT 94E measure the square of this quantity and use the sign determined by ALBRECHT 90I to obtain the quoted result. Replaced by ALBRECHT 95C.

ξ^τ(all hadronic modes) PARAMETER

$(V-A)$ theory predicts $\xi^\tau = 1$.

VALUE	EVTS	DOCUMENT ID		TECN	COMMENT
0.997±0.009 OUR AVERAGE					
0.93 ±0.10 ±0.04		ABE	97O	SLD	1993–1995 SLC runs
1.29 ±0.26 ±0.11	7.4k	[211] ACKERSTAFF	97R	OPAL	1992–1994 LEP runs
0.995±0.010±0.003	66k	[212] ALEXANDER	97F	CLEO	E^{ee}_{cm}= 10.6 GeV
1.03 ±0.06 ±0.04	2.0k	[213] COAN	97	CLEO	E^{ee}_{cm}= 10.6 GeV
0.970±0.053±0.011	14k	[214] ACCIARRI	96H	L3	1991–1993 LEP runs
1.017±0.039		[215] ALBRECHT	95C	ARG	E^{ee}_{cm}= 9.5–10.6 GeV
1.006±0.032±0.019		[216] BUSKULIC	95D	ALEP	1990–1992 LEP runs

• • • We do not use the following data for averages, fits, limits, etc. • • •

$1.08 \ {}^{+0.46}_{-0.41} \ {}^{+0.14}_{-0.25}$	2.6k	[217] AKERS	95P	OPAL	Repl. by ACKERSTAFF 97R
$1.022 \pm 0.028 \pm 0.030$	1.7k	[218] ALBRECHT	94E	ARG	E^{ee}_{cm}= 9.4–10.6 GeV
$0.99 \ \pm 0.07 \ \pm 0.04$		[219] BUSKULIC	94D	ALEP	1990+1991 LEP run
$1.25 \ \pm 0.23 \ {}^{+0.15}_{-0.08}$	7.5k	[220] ALBRECHT	93C	ARG	E^{ee}_{cm}= 9.4–10.6 GeV

[211] ACKERSTAFF 97R use $\tau \rightarrow a_1 \nu_\tau$ decays.
[212] ALEXANDER 97F use $\tau \rightarrow \rho \nu_\tau$ decays.
[213] COAN 97 use $h^+ h^-$ energy correlations.
[214] ACCIARRI 96H use $\tau \rightarrow \pi \nu_\tau$, $\tau \rightarrow K \nu_\tau$, and $\tau \rightarrow \rho \nu_\tau$ decays.
[215] Combined fit to ARGUS tau decay parameter measurements in ALBRECHT 95C, ALBRECHT 93G, and ALBRECHT 94E.
[216] BUSKULIC 95D use $\tau \rightarrow \pi \nu_\tau$, $\tau \rightarrow \rho \nu_\tau$, and $\tau \rightarrow a_1 \nu_\tau$ decays.
[217] AKERS 95P use $\tau \rightarrow a_1 \nu_\tau$ decays.
[218] ALBRECHT 94E measure the square of this quantity and use the sign determined by ALBRECHT 90I to obtain the quoted result. Uses $\tau \rightarrow a_1 \nu_\tau$ decays. Replaced by ALBRECHT 95C.
[219] BUSKULIC 94D use $\tau \rightarrow \pi \nu_\tau$ and $\tau \rightarrow \rho \nu_\tau$ decays. Superseded by BUSKULIC 95D.
[220] Uses $\tau \rightarrow a_1 \nu_\tau$ decays. Replaced by ALBRECHT 95C.

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CERN-PPE/97-167
BLISS 98 PR D57 5903 D.W. Bliss+ (CLEO Collab.)
ABE 97O PRL 78 4691 +Akagi, Allen, Ash+ (SLD Collab.)
ACKERSTAFF 97J PL B404 213 +Alexander, Allison, Altekamp+ (OPAL Collab.)
ACKERSTAFF 97L ZPHY C74 403 +Alexander, Allison, Altekamp+ (OPAL Collab.)
ACKERSTAFF 97R ZPHY C75 593 K. Ackerstaff+ (OPAL Collab.)
ALEXANDER 97F PR D56 5320 +Bebek, Berger, Berkelman, Bloom+ (CLEO Collab.)
AMMAR 97B PRL 78 4686 R. Ammar+ (CLEO Collab.)
ANASTASSOV 97 PR D55 2559 +Blinov, Duboscq, Fisher, Fujino+ (CLEO Collab.)
ANDERSON 97 PRL 79 3814 +Kubota, Lee, O'Neill, Patton+ (CLEO Collab.)
AVERY 97 PR D55 R1119 +Prescott, Yang, Yelton+ (CLEO Collab.)
BARATE 97I ZPHY C74 387 +Buskulic, Decamp, Ghez, Goy+ (ALEPH Collab.)
BARATE 97R PL B414 362 R. Barate+ (ALEPH Collab.)
BERGFELD 97 PRL 79 2406 +Eisenstein, Ernst, Gladding+ (CLEO Collab.)
BONVICINI 97 PRL 79 1221 +Cinabro, Green, Perera+ (CLEO Collab.)
BUSKULIC 97C ZPHY C74 263 +De Bonis, Decamp, Ghez, Goy+ (ALEPH Collab.)
COAN 97 PR D55 7291 +Fadeyev, Korolkov, Maravin+ (CLEO Collab.)
EDWARDS 97 PR D55 R3919 +Bellerive, Janicek, MacFarlane+ (CLEO Collab.)
EDWARDS 97B PR D56 R5297 +Bellerive, Janicek, MacFarlane+ (CLEO Collab.)
ESCRIBANO 97 PL B395 369 +Masso (BARC, PARIT)
ABREU 96B PL B365 448 +Adam, Adye, Agasi+ (DELPHI Collab.)
ACCIARRI 96H PL B377 313 +Adam, Adriani, Aguilar-Benitez+ (L3 Collab.)
ACCIARRI 96K PL B389 187 +Adriani, Aguilar-Benitez, Ahlen+ (L3 Collab.)
ALAM 96 PRL 76 2637 +Kim, Ling, Mahmood, O'Neill+ (CLEO Collab.)
ALBRECHT 96E PRPL 276 223 +Andam, Binder, Bockmann+ (ARGUS Collab.)
ALEXANDER 96D PL B369 163 +Allison, Altekamp, Ametewee+ (OPAL Collab.)
ALEXANDER 96E PL B374 341 +Allison, Altekamp, Ametewee+ (OPAL Collab.)
ALEXANDER 96S PL B388 437 +Allison, Altekamp, Ametewee+ (OPAL Collab.)
BAI 96 PR D53 20 +Bardon, Becker-Szendy, Blum+ (BES Collab.)

BALEST	96	PL B388 402	+Behrens, Cho, Daoudi, Ford+	(CLEO Collab.)
BARTELT	96	PRL 76 4119	+Csorna, Jain, Marka+	(CLEO Collab.)
BUSKULIC	96	ZPHY C70 579	+Casper, De Bonis, Decamp+	(ALEPH Collab.)
BUSKULIC	96C	ZPHY C70 561	+Casper, De Bonis, Decamp+	(ALEPH Collab.)
COAN	96	PR D53 6037	+Dominick, Fadeyev, Korolkov+	(CLEO Collab.)
ABE	95Y	PR D52 4828	+Abt, Ahn, Akagi, Allen+	(SLD Collab.)
ABREU	95T	PL B357 715	+Adam, Adye, Agasi, Ajinenko+	(DELPHI Collab.)
ABREU	95U	PL B359 411	+Adam, Adye, Agasi, Ajinenko+	(DELPHI Collab.)
ACCIARRI	95	PL B345 93	+Adam, Adriani, Aguilar-Benitez+	(L3 Collab.)
ACCIARRI	95F	PL B352 487	+Adam, Adriani, Aguilar-Benitez+	(L3 Collab.)
AKERS	95F	ZPHY C66 31	+Alexander, Allison, Ametewee+	(OPAL Collab.)
AKERS	95I	ZPHY C66 543	+Alexander, Allison, Ametewee+	(OPAL Collab.)
AKERS	95P	ZPHY C67 45	+Alexander, Allison, Ametewee+	(OPAL Collab.)
AKERS	95Y	ZPHY C68 555	+Alexander, Allison, Altekamp+	(OPAL Collab.)
ALBRECHT	95	PL B341 441	+Hamacher, Hofmann, Kirchhoff+	(ARGUS Collab.)
ALBRECHT	95C	PL B349 576	+Hamacher, Hofmann, Kirchoff+	(ARGUS Collab.)
ALBRECHT	95G	ZPHY C68 25	+Hamacher, Hofmann, Kirchhoff+	(ARGUS Collab.)
ALBRECHT	95H	ZPHY C68 215	+Hamacher, Hofmann, Kirchhoff+	(ARGUS Collab.)
BALEST	95C	PRL 75 3809	+Cho, Ford, Lohner+	(CLEO Collab.)
BUSKULIC	95C	PL B346 371	+Casper, De Bonis, Decamp+	(ALEPH Collab.)
BUSKULIC	95D	PL B346 379	+Casper, De Bonis, Decamp+	(ALEPH Collab.)
Also	95P	PL B363 265 erratum		
ABREU	94K	PL B334 435	+Adam, Adye, Agasi+	(DELPHI Collab.)
AKERS	94E	PL B328 207	+Alexander, Allison, Anderson+	(OPAL Collab.)
AKERS	94G	PL B339 278	+Alexander, Allison, Anderson+	(OPAL Collab.)
ALBRECHT	94E	PL B337 383	+Hamacher, Hofmann+	(ARGUS Collab.)
ARTUSO	94	PRL 72 3762	+Goldberg, He, Horwitz+	(CLEO Collab.)
BARTELT	94	PRL 73 1890	+Csorna, Egyed, Jain+	(CLEO Collab.)
BATTLE	94	PRL 73 1079	+Ernst, Kwon, Roberts+	(CLEO Collab.)
BAUER	94	PR D50 R13	+Belcinski, Berg, Bingham+	(TPC/2gamma Collab.)
BUSKULIC	94D	PL B321 168	+De Bonis, Decamp, Ghez+	(ALEPH Collab.)
BUSKULIC	94E	PL B332 209	+Casper, De Bonis, Decamp+	(ALEPH Collab.)
BUSKULIC	94F	PL B332 219	+Casper, De Bonis, Decamp+	(ALEPH Collab.)
GIBAUT	94B	PRL 73 934	+Kinoshita, Barish, Chadha+	(CLEO Collab.)
ADRIANI	93M	PRPL 236 1	+Aguilar-Benitez, Ahlen, Alcaraz, Aloisio+	(L3 Collab.)
ALBRECHT	93C	ZPHY C58 61	+Ehrlichmann, Hamacher+	(ARGUS Collab.)
ALBRECHT	93G	PL B316 608	+Ehrlichmann, Hamacher+	(ARGUS Collab.)
BALEST	93	PR D47 R3671	+Daoudi, Ford, Johnson+	(CLEO Collab.)
BEAN	93	PRL 70 138	+Gronberg, Kutschke+	(CLEO Collab.)
BORTOLETTO	93	PRL 71 1791	+Brown, Fast, McIlwain+	(CLEO Collab.)
ESCRIBANO	93	PL B301 419	+Masso	(BARC)
PROCARIO	93	PRL 70 1207	+Yang, Balest, Cho+	(CLEO Collab.)
ABREU	92N	ZPHY C55 555	+Adam, Adye, Agasi+	(DELPHI Collab.)
ACTON	92F	PL B281 405	+Alexander, Allison, Allport+	(OPAL Collab.)
ACTON	92H	PL B288 373	+Allison, Allport+	(OPAL Collab.)
AKERIB	92	PRL 69 3610	+Barish, Chadha, Cowen+	(CLEO Collab.)
Also	93B	PRL 71 3395 (erratum)	Akerib, Barish, Chadha, Cowen+	(CLEO Collab.)
ALBRECHT	92D	ZPHY C53 367	+Ehrlichmann, Hamacher+	(ARGUS Collab.)
ALBRECHT	92K	ZPHY C55 179	+Ehrlichmann, Hamacher, Krueger+	(ARGUS Collab.)
ALBRECHT	92M	PL B292 221	+Ehrlichmann, Hamacher, Hofmann+	(ARGUS Collab.)
ALBRECHT	92Q	ZPHY C56 339	+Ehrlichmann, Hamacher+	(ARGUS Collab.)
AMMAR	92	PR D45 3976	+Baringer, Coppage, Davis+	(CLEO Collab.)
ARTUSO	92	PRL 69 3278	+Goldberg, Horwitz, Kennett+	(CLEO Collab.)
BAI	92	PRL 69 3021	+Bardon, Becker-Szendy, Burnett+	(BES Collab.)
BATTLE	92	PL B291 488	+Ernst, Kroha, Roberts+	(CLEO Collab.)
BUSKULIC	92J	PL B297 459	+Decamp, Goy, Lees+	(ALEPH Collab.)
DECAMP	92C	ZPHY C54 211	+Deschizeaux, Goy, Lees+	(ALEPH Collab.)
ADEVA	91F	PL B265 451	+Adriani, Aguilar-Benitez, Akbari+	(L3 Collab.)
ALBRECHT	91D	PL B260 259	+Ehrlichmann, Hamacher, Krueger+	(ARGUS Collab.)
ALEXANDER	91D	PL B266 201	+Allison, Allport, Anderson+	(OPAL Collab.)
ANTREASYAN	91	PL B259 216	+Bartels, Besset, Bieler+	(Crystal Ball Collab.)
GRIFOLS	91	PL B255 611	+Mendez	(BARC)
SAMUEL	91B	PRL 67 668	+Li, Mendel	(OKSU, WONT)
Also Erratum.	92B	PRL 69 995	Samuel, Li, Mendel	(OKSU, WONT)
ABACHI	90	PR D41 1414	+Derrick, Kooijman, Musgrave+	(HRS Collab.)
ALBRECHT	90E	PL B246 278	+Ehrlichmann, Harder, Krueger+	(ARGUS Collab.)
ALBRECHT	90I	PL B250 164	+Ehrlichmann, Harder, Krueger+	(ARGUS Collab.)
BEHREND	90	ZPHY C46 537	+Criegee, Field, Franke+	(CELLO Collab.)

BOWCOCK	90	PR D41 805	+Kinoshita, Pipkin, Procario+	(CLEO Collab.)
DELAGUILA	90	PL B252 116	+Sher	(BARC, WILL)
GOLDBERG	90	PL B251 223	+Haupt, Horwitz, Jain+	(CLEO Collab.)
WU	90	PR D41 2339	+Hayes, Perl, Barklow+	(Mark II Collab.)
ABACHI	89B	PR D40 902	+Derrick, Kooijman, Musgrave+	(HRS Collab.)
BEHREND	89B	PL B222 163	+Criegee, Dainton, Field, Franke+	(CELLO Collab.)
JANSSEN	89	PL B228 273	+Antreasyan, Bartels, Besset+	(Crystal Ball Collab.)
KLEINWORT	89	ZPHY C42 7	+Allison, Ambrus, Barlow+	(JADE Collab.)
ADEVA	88	PR D38 2665	+Anderhub, Ansari, Becker+	(Mark-J Collab.)
ALBRECHT	88B	PL B202 149	+Binder, Boeckmann+	(ARGUS Collab.)
ALBRECHT	88L	ZPHY C41 1	+Boeckmann, Glaeser, Harder+	(ARGUS Collab.)
ALBRECHT	88M	ZPHY C41 405	+Boeckmann, Glaeser, Harder+	(ARGUS Collab.)
AMIDEI	88	PR D37 1750	+Trilling, Abrams, Baden+	(Mark II Collab.)
BEHREND	88	PL B200 226	+Criegee, Dainton, Field+	(CELLO Collab.)
BRAUNSCH...	88C	ZPHY C39 331	Braunschweig, Kirschfink, Martyn+	(TASSO Collab.)
KEH	88	PL B212 123	+Antreasyan, Bartels, Besset+	(Crystal Ball Collab.)
TSCHIRHART	88	PL B205 407	+Abachi, Akerlof, Baringer+	(HRS Collab.)
ABACHI	87B	PL B197 291	+Baringer, Bylsma, De Bonte+	(HRS Collab.)
ABACHI	87C	PRL 59 2519	+Akerlof, Baringer, Blockus+	(HRS Collab.)
ADLER	87B	PRL 59 1527	+Becker, Blaylock, Bolton+	(Mark III Collab.)
AIHARA	87B	PR D35 1553	+Alston-Garnjost, Avery+	(TPC Collab.)
AIHARA	87C	PRL 59 751	+Alston-Garnjost, Avery+	(TPC Collab.)
ALBRECHT	87L	PL B185 223	+Binder, Boeckmann, Glaser+	(ARGUS Collab.)
ALBRECHT	87P	PL B199 580	+Andam, Binder, Boeckmann+	(ARGUS Collab.)
BAND	87	PL B198 297	+Camporesi, Chadwick, Delfino+	(MAC Collab.)
BAND	87B	PRL 59 415	+Bosman, Camporesi, Chadwick+	(MAC Collab.)
BARINGER	87	PRL 59 1993	+McIlwain, Miller, Shibata+	(CLEO Collab.)
BEBEK	87C	PR D36 690	+Berkelman, Blucher, Cassel+	(CLEO Collab.)
BURCHAT	87	PR D35 27	+Feldman, Barklow, Boyarski+	(Mark II Collab.)
BYLSMA	87	PR D35 2269	+Abachi, Baringer, DeBonte+	(HRS Collab.)
COFFMAN	87	PR D36 2185	+Dubois, Eigen, Hauser+	(Mark III Collab.)
DERRICK	87	PL B189 260	+Kooijman, Loos, Musgrave+	(HRS Collab.)
FORD	87	PR D35 408	+Qi, Read, Smith+	(MAC Collab.)
FORD	87B	PR D36 1971	+Qi, Read, Smith+	(MAC Collab.)
GAN	87	PRL 59 411	+Abrams, Amidei, Baden+	(Mark II Collab.)
GAN	87B	PL B197 561	+Abrams, Amidei, Baden+	(Mark II Collab.)
AIHARA	86E	PRL 57 1836	+Alston-Garnjost, Avery+	(TPC Collab.)
BARTEL	86D	PL B182 216	+Becker, Felst, Haidt, Knies+	(JADE Collab.)
PDG	86	PL 170B	Aguilar-Benitez, Porter+	(CERN, CIT+)
RUCKSTUHL	86	PRL 56 2132	+Stroynowski, Atwood, Barish+	(DELCO Collab.)
SCHMIDKE	86	PRL 57 527	+Abrams, Matteuzzi, Amidei+	(Mark II Collab.)
YELTON	86	PRL 56 812	+Dorfan, Abrams, Amidei+	(Mark II Collab.)
ALTHOFF	85	ZPHY C26 521	+Braunschweig, Kirschfink+	(TASSO Collab.)
ASH	85B	PRL 55 2118	+Band, Blume, Camporesi+	(MAC Collab.)
BALTRUSAIT...	85	PRL 55 1842	Baltrusaitis, Becker, Blaylock, Brown+	(Mark III Collab.)
BARTEL	85F	PL 161B 188	+Becker, Cords, Felst+	(JADE Collab.)
BEHRENDS	85	PR D32 2468	+Gentile, Guida, Guida, Morrow+	(CLEO Collab.)
BELTRAMI	85	PRL 54 1775	+Bylsma, DeBonte, Gan+	(HRS Collab.)
BERGER	85	ZPHY C28 1	+Genzel, Lackas, Pielorz+	(PLUTO Collab.)
BURCHAT	85	PRL 54 2489	+Schmidke, Yelton, Abrams+	(Mark II Collab.)
FERNANDEZ	85	PRL 54 1624	+Ford, Qi, Read+	(MAC Collab.)
MILLS	85	PRL 54 624	+Pal, Atwood, Baillon+	(DELCO Collab.)
AIHARA	84C	PR D30 2436	+Alston-Garnjost, Badtke, Bakken+	(TPC Collab.)
BEHREND	84	ZPHY C23 103	+Fenner, Schachter, Schroder+	(CELLO Collab.)
MILLS	84	PRL 52 1944	+Ruckstuhl, Atwood, Baillon+	(DELCO Collab.)
BEHREND	83C	PL 127B 270	+Chen, Fenner, Gumpel+	(CELLO Collab.)
SILVERMAN	83	PR D27 1196	+Shaw	(UCI)
BEHREND	82	PL 114B 282	+Chen, Fenner, Field+	(CELLO Collab.)
BLOCKER	82B	PRL 48 1586	+Abrams, Alam, Blondel+	(Mark II Collab.)
BLOCKER	82D	PL 109B 119	+Dorfan, Abrams, Alam+	(Mark II Collab.) J
FELDMAN	82	PRL 48 66	+Trilling, Abrams, Amidei+	(Mark II Collab.)
HAYES	82	PR D25 2869	+Perl, Alam, Boyarski+	(Mark II Collab.)
BERGER	81B	PL 99B 489	+Genzel, Grigull, Lackas+	(PLUTO Collab.)
DORFAN	81	PRL 46 215	+Blocker, Abrams, Alam+	(Mark II Collab.)
BRANDELIK	80	PL 92B 199	+Braunschweig, Gather+	(TASSO Collab.)
ZHOLENTZ	80	PL 96B 214	+Kurdadze, Lelchuk, Mishnev+	(NOVO)
Also	81	SJNP 34 814	Zholentz, Kurdadze, Lelchuk+	(NOVO)
		Translated from YAF 34 1471.		

BACINO	79B	PRL 42 749	+Ferguson, Nodulman, Slater+	(DELCO Collab.)
KIRKBY	79	SLAC-PUB-2419		(SLAC) J
Batavia Lepton Photon Conference.				
BACINO	78B	PRL 41 13	+Ferguson, Nodulman, Slater+	(DELCO Collab.) J
Also	78	Tokyo Conf. 249	Kirz	(STON)
Also	80	PL 96B 214	Zholentz, Kurdadze, Lelchuk, Mishnev+	(NOVO)
BRANDELIK	78	PL 73B 109	+Braunschweig, Martyn, Sander+	(DASP Collab.) J
FELDMAN	78	Tokyo Conf. 777		(SLAC) J
HEILE	78	NP B138 189	+Perl, Abrams, Alam, Boyarski+	(SLAC, LBL)
JAROS	78	PRL 40 1120	+Abrams, Alam+	(SLAC, LBL, NWES, HAWA)
PERL	75	PRL 35 1489	+Abrams, Boyarski, Breidenbach+	(LBL, SLAC)

OTHER RELATED PAPERS

GENTILE	96	PRPL 274 287	+Pohl	(ROMAI, ETH)
WEINSTEIN	93	ARNPS 43 457	+Stroynowski	(CIT, SMU)
PERL	92	RPP 55 653		(SLAC)
PICH	90	MPL A5 1995		(VALE)
BARISH	88	PRPL 157 1	+Stroynowski	(CIT)
GAN	88	IJMP A3 531	+Perl	(SLAC)
HAYES	88	PR D38 3351	+Perl	(SLAC)
PERL	80	ARNPS 30 299		(SLAC)