$\Gamma(\pi^- \pi^0 \nu_\tau)/\Gamma_{\rm total}$ — Γ_{13}/Γ

VALUE (%)	EVTS	DOCUMENT ID		TECN	COMMENT
25.2±0.4 OUR FIT	Error includes scale factor of 1.7.				
22.2±1.0 OUR AVERAGE					
21.5±0.4±1.9	4400	[38,39] ALBRECHT	88L	ARG	$E^{ee}_{\rm cm}$= 10 GeV
23.0±1.3±1.7	582	ADLER	87B	MRK3	$E^{ee}_{\rm cm}$= 3.77 GeV
22.3±0.6±1.4	629	[39] YELTON	86	MRK2	$E^{ee}_{\rm cm}$= 29 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
25.8±1.7±2.5		[40] BURCHAT	87	MRK2	$E^{ee}_{\rm cm}$= 29 GeV

[38] The authors divide by $(\Gamma_2 + \Gamma_4 + \Gamma_7 + \Gamma_9)/\Gamma = 0.467$ to obtain this result.
[39] Experiment had no hadron identification. Kaon corrections were made, but insufficient information is given to permit their removal.
[40] BURCHAT 87 value is not independent of YELTON 86 value. Nonresonant decays included.

$\Gamma(\pi^- \pi^0 \text{ non-}\rho(770) \nu_\tau)/\Gamma_{\rm total}$ — Γ_{14}/Γ

VALUE (%)	DOCUMENT ID		TECN	COMMENT
• • • We do not use the following data for averages, fits, limits, etc. • • •				
0.3±0.1±0.3	[41] BEHREND	84	CELL	$E^{ee}_{\rm cm}$= 14,22 GeV

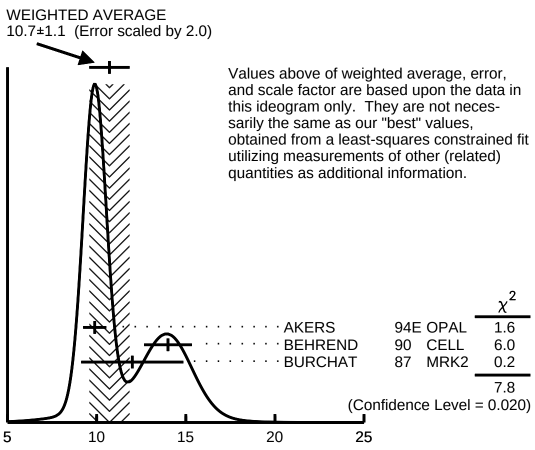
[41] BEHREND 84 assume a flat nonresonant mass distribution down to the $\rho(770)$ mass, using events with mass above 1300 to set the level.

$\Gamma(h^- \geq 2\pi^0 \nu_\tau)/\Gamma_{\rm total}$ — $\Gamma_{15}/\Gamma = (\Gamma_{16}+\Gamma_{18}+\Gamma_{19}+0.105\Gamma_{41})/\Gamma$

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
11.2 ±0.4 OUR FIT	Error includes scale factor of 1.5.					
10.7 ±1.1 OUR AVERAGE	Error includes scale factor of 2.0. See the ideogram below.					
9.89±0.34±0.55	avg		AKERS	94E	OPAL	1991–1992 LEP runs
14.0 ±1.2 ±0.6	f&a	938	BEHREND	90	CELL	$E^{ee}_{\rm cm}$= 35 GeV
12.0 ±1.4 ±2.5	f&a		[42] BURCHAT	87	MRK2	$E^{ee}_{\rm cm}$= 29 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
13.9 ±2.0 $^{+1.9}_{-2.2}$			[43] AIHARA	86E	TPC	$E^{ee}_{\rm cm}$= 29 GeV

[42] Error correlated with BURCHAT 87 $\Gamma(\rho^- \nu_e)/\Gamma(\text{total})$ value.
[43] AIHARA 86E (TPC) quote $B(2\pi^0 \pi^- \nu_\tau) + 1.6B(3\pi^0 \pi^- \nu_\tau) + 1.1B(\pi^0 \eta \pi^- \nu_\tau)$.



$\Gamma(h^- \geq 2\pi^0 \nu_\tau)/\Gamma_{\rm total}$ (%)

$\Gamma(h^- 2\pi^0 \nu_\tau)/\Gamma_{\rm total}$ — Γ_{16}/Γ

Entries are corrected for $K^*(892)^- \nu_\tau$ contributions.

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
9.6 ±0.4 OUR FIT	Error includes scale factor of 1.5.					
9.0 ±0.4 OUR AVERAGE	Error includes scale factor of 1.2.					
8.96±0.16±0.44	avg		[44] PROCARIO	93	CLEO	$E^{ee}_{\rm cm} \approx$ 10.6 GeV
10.38±0.66±0.82	f&a	809	[45] DECAMP	92C	ALEP	$E^{ee}_{\rm cm}$= 88–95 GeV
5.7 ±0.5 $^{+1.7}_{-1.0}$	f&a	133	[46] ANTREASYAN	91	CBAL	$E^{ee}_{\rm cm}$= 9.4–10.6 GeV
10.0 ±1.5 ±1.1	f&a	333	[47] BEHREND	90	CELL	$E^{ee}_{\rm cm}$= 35 GeV
8.7 ±0.4 ±1.1	f&a	815	[48] BAND	87	MAC	$E^{ee}_{\rm cm}$= 29 GeV
6.0 ±3.0 ±1.8	f&a		BEHREND	84	CELL	$E^{ee}_{\rm cm}$= 14,22 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •						
6.2 ±0.6 ±1.2			[49] GAN	87	MRK2	$E^{ee}_{\rm cm}$= 29 GeV

[44] PROCARIO 93 entry is obtained from $B(h^- 2\pi^0 \nu_\tau)/B(h^- \pi^0 \nu_\tau)$ using ARTUSO 94 result for $B(h^- \pi^0 \nu_\tau)$.
[45] We subtract 0.0015 to account for $\tau^- \to K^*(892)^- \nu_\tau$ contribution.
[46] ANTREASYAN 91 subtract 0.001 to account for the $\tau^- \to K^*(892)^- \nu_\tau$ contribution.
[47] BEHREND 90 subtract 0.002 to account for the $\tau^- \to K^*(892)^- \nu_\tau$ contribution.
[48] BAND 87 assume $B(\pi^- 3\pi^0 \nu_\tau) = 0.01$ and $B(\pi^- \pi^0 \eta \nu_\tau) = 0.005$.
[49] GAN 87 analysis use photon multiplicity distribution.

$\Gamma(h^- 2\pi^0 \nu_\tau)/\Gamma(h^- \pi^0 \nu_\tau)$ — $\Gamma_{16}/\Gamma_{12} = \Gamma_{16}/(\Gamma_{13}+\frac{1}{3}\Gamma_{41})$

VALUE	DOCUMENT ID		TECN	COMMENT
0.373±0.019 OUR FIT	Error includes scale factor of 1.5.			
0.342±0.006±0.016	[50] PROCARIO	93	CLEO	$E^{ee}_{\rm cm} \approx$ 10.6 GeV

[50] PROCARIO 93 quote 0.345 ± 0.006 ± 0.016 after correction for 2 kaon backgrounds assuming $B(K^{*-} \nu_\tau)$=1.42 ± 0.18% and $B(h^- K^0 \pi^0 \nu_\tau)$=0.48 ± 0.48%. We multiply by 0.990 ± 0.010 to remove these corrections to $B(h^- \pi^0 \nu_\tau)$.

$\Gamma(h^- \geq 3\pi^0 \nu_\tau)/\Gamma_{\rm total}$ — $\Gamma_{17}/\Gamma = (\Gamma_{18}+\Gamma_{19})/\Gamma$

In defining $B(h^- \geq 3\pi^0 \nu_\tau) = B(h^- 3\pi^0 \nu_\tau) + B(h^- 4\pi^0 \nu_\tau)$ we have assumed $B(h^- \geq 5\pi^0 \nu_\tau)$ is negligible.

VALUE (%)	EVTS	DOCUMENT ID		TECN	COMMENT
1.48±0.26 OUR FIT	Error includes scale factor of 1.7.				
1.8 ±0.5 OUR AVERAGE					
1.53±0.40±0.46	186	DECAMP	92C	ALEP	$E^{ee}_{\rm cm}$= 88–95 GeV
3.2 ±1.0 ±1.0		[51] BEHREND	90	CELL	$E^{ee}_{\rm cm}$= 35 GeV
3.0 ±2.2 ±1.5		BEHREND	84	CELL	$E^{ee}_{\rm cm}$= 14,22 GeV

[51] Not independent of BEHREND 90 $\Gamma(\text{hadron}^- \geq 2\pi^0 \nu_\tau)/\Gamma_{\rm total}$ and $\Gamma(\pi^- 2\pi^0 \nu_\tau)/\Gamma_{\rm total}$ values.

$\Gamma(h^- 3\pi^0 \nu_\tau)/\Gamma_{\rm total}$ — Γ_{18}/Γ

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 (%)		DOCUMENT ID		TECN	COMMENT
1.28±0.24 OUR FIT	Error includes scale factor of 1.7.				
1.15±0.08±0.13	**avg**	[52] PROCARIO	93	CLEO	$E^{ee}_{\rm cm} \approx$ 10.6 GeV
• • • We do not use the following data for averages, fits, limits, etc. • • •					
0.0 $^{+1.4}_{-0.1}$ $^{+1.1}_{-0.1}$		[53] GAN	87	MRK2	$E^{ee}_{\rm cm}$= 29 GeV

[52] PROCARIO 93 entry is obtained from $B(h^- 3\pi^0 \nu_\tau)/B(h^- \pi^0 \nu_\tau)$ using ARTUSO 94 result for $B(h^- \pi^0 \nu_\tau)$.
[53] Highly correlated with GAN 87 $\Gamma(\eta \pi^- \pi^0 \nu_\tau)/\Gamma_{\rm total}$ value. Authors quote $B(\pi^\pm 3\pi^0 \nu_\tau) + 0.67B(\pi^\pm \eta \pi^0 \nu_\tau) = 0.047 \pm 0.010 \pm 0.011$.

$\Gamma(h^- 3\pi^0 \nu_\tau)/\Gamma(h^- \pi^0 \nu_\tau)$ — $\Gamma_{18}/\Gamma_{12} = \Gamma_{18}/(\Gamma_{13}+\frac{1}{3}\Gamma_{41})$

VALUE	DOCUMENT ID		TECN	COMMENT
0.050±0.009 OUR FIT	Error includes scale factor of 1.7.			
0.044±0.003±0.005	[54] PROCARIO	93	CLEO	$E^{ee}_{\rm cm} \approx$ 10.6 GeV

[54] PROCARIO 93 quote 0.041 ± 0.003 ± 0.005 after correction for 2 kaon backgrounds assuming $B(K^{*-} \nu_\tau)$=1.42 ± 0.18% and $B(h^- K^0 \pi^0 \nu_\tau)$=0.48 ± 0.48%. We add 0.003 ± 0.003 and multiply the sum by 0.990 ± 0.010 to remove these corrections.

$\Gamma(h^- 4\pi^0 \nu_\tau)/\Gamma_{\rm total}$ — Γ_{19}/Γ

VALUE (%)	DOCUMENT ID		TECN	COMMENT
$0.19^{+0.11}_{-0.10}$ OUR FIT	Error includes scale factor of 1.6.			
0.16±0.05±0.05	[55] PROCARIO	93	CLEO	$E^{ee}_{\rm cm} \approx$ 10.6 GeV

[55] PROCARIO 93 quotes $B(h^- 4\pi^0 \nu_\tau)/B(h^- \pi^0 \nu_\tau) = 0.006 \pm 0.002 \pm 0.002$. We multiply by the ARTUSO 94 result for $B(h^- \pi^0 \nu_\tau)$ to obtain $B(h^- 4\pi^0 \nu_\tau)$.

$\Gamma(2h^- h^+ \geq 0 \text{ neutrals } \nu_\tau \text{ ("3-prong")})/\Gamma_{\rm total}$ — $\Gamma_{20}/\Gamma = (\Gamma_{21}+\Gamma_{22}+0.229\Gamma_{41})/\Gamma$

Some inconsistency exists for this mode since experiments differ in how they treat $B(\tau^- \to h^- (K^0_S \to \pi^+ \pi^-))$ decays.

VALUE (%)	EVTS	DOCUMENT ID		TECN	COMMENT
14.38± 0.24 OUR FIT	Error includes scale factor of 1.5.				
14.32± 0.27 OUR AVERAGE	Error includes scale factor of 1.5. See the ideogram below.				
15.26± 0.26±0.22		ACTON	92H	OPAL	$E^{ee}_{\rm cm}$= 88.2–94.2 GeV
13.3 ± 0.3 ±0.8		[56] ALBRECHT	92D	ARG	$E^{ee}_{\rm cm}$= 9.4–10.6 GeV
14.35$^{+\ 0.40}_{-\ 0.45}$±0.24		DECAMP	92C	ALEP	$E^{ee}_{\rm cm}$= 88–95 GeV
14.4 ± 0.6 ±0.3		ADEVA	91F	L3	$E^{ee}_{\rm cm}$= 88.3–94.3 GeV
13.5 ± 0.3 ±0.3		ABACHI	89B	HRS	$E^{ee}_{\rm cm}$= 29 GeV
15.0 ± 0.4 ±0.3		BEHREND	89B	CELL	$E^{ee}_{\rm cm}$= 14–47 GeV
15.1 ± 0.8 ±0.6		AIHARA	87B	TPC	$E^{ee}_{\rm cm}$= 29 GeV
12.1 ± 0.5 ±1.2		RUCKSTUHL	86	DLCO	$E^{ee}_{\rm cm}$= 29 GeV
12.8 ± 0.5 ±0.8	1420	SCHMIDKE	86	MRK2	$E^{ee}_{\rm cm}$= 29 GeV
15.3 ± 1.1 $^{+1.3}_{-1.6}$	367	ALTHOFF	85	TASS	$E^{ee}_{\rm cm}$= 34.5 GeV
13.6 ± 0.5 ±0.8		BARTEL	85F	JADE	$E^{ee}_{\rm cm}$= 34.6 GeV
13.3 ± 0.3 ±0.6		FERNANDEZ	85	MAC	$E^{ee}_{\rm cm}$= 29 GeV