

detector and the new Mark II detector. These measurements were summarized, Table II, by Gary Feldman⁴⁹ in his 1978 review of e^+e^- annihilation physics at the *XIX International Conference on High Energy Physics*. Although the average of the results in Table III is two standard deviations smaller than the present value⁵⁰ of $11.7 \pm 0.47\%$, the $\tau^- \rightarrow \nu_\tau \pi^-$ mode had been found.

Table III. From Feldman⁴⁹, the various measured branching fractions for $\tau^- \rightarrow \pi^- \nu_\tau$ in late 1978.

Experiment	Mode	Events	Background	$B(\tau \rightarrow \pi \nu)$ (%)
SLAC-LBL	$x\pi$	≈ 200	≈ 70	$9.3 \pm 1.0 \pm 3.8$
PLUTO	$x\pi$	32	9	$9.0 \pm 2.9 \pm 2.5$
DELCO	$e\pi$	18	7	$8.0 \pm 3.2 \pm 1.3$
Mark II	$x\pi$	142	46	$8.0 \pm 1.1 \pm 1.5$
	$e\pi$	27	10	$8.2 \pm 2.0 \pm 1.5$
Average				8.3 ± 1.4

The year 1979 saw the first publications of $B(\tau^- \rightarrow \nu_\tau \rho^-)$. The DASP Collaboration using the DORIS e^+e^- storage ring reported⁵¹ $(24 \pm 9)\%$ and the Mark II Collaboration reported⁵² $(20.5 \pm 4.1)\%$. Crude measurements, but in agreement with the 20% estimate in Eq.10c. The present value is⁵⁰ $(25.5 \pm 0.4)\%$.

Thus by the end of 1979 all confirmed measurements agreed with the hypothesis that the τ was a lepton which was produced by a known electromagnetic interaction and, at least in its main modes, decayed through the conventional weak interaction.

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In the final section of this paper I sketch some of the history of τ research in the years 1978 to 1982 when that research made the transition from the verification of the existence of the tau to the present period of detailed studies of tau properties.