

Table I. From Perl.³⁴ A table of 2-charged-particle events collected at 4.8 GeV in the Mark I detector. The table, containing 24 $e\mu$ events with zero total charge and no photons, was the strongest evidence at that time for the τ . The caption read:

“Distribution of 513, 4.8 GeV, 2-prong, events which meet the criteria: $p_e > 0.65$ GeV/c, $p_\mu > 0.65$ GeV/c, $\theta_{copl} > 20^\circ$.”

Number photons =	Total Charge = 0			Total Charge = ± 2		
	0	1	> 1	0	1	> 1
ee	40	111	55	0	1	0
$e\mu$	24	8	8	0	0	3
$\mu\mu$	16	15	6	0	0	0
eh	18	23	32	2	3	3
μh	15	16	31	4	0	5
hh	13	11	30	10	4	6
Sum	126	184	162	16	8	17

Table II. From Perl.³⁴ The caption read:

“Misidentification probabilities for 4.8 GeV sample”

Momentum range (GeV/c)	$P_{h \rightarrow e}$	$P_{h \rightarrow \mu}$	$P_{h \rightarrow h}$
0.6 - 0.9	.130 \pm .005	.161 \pm .006	.709 \pm .012
0.9 - 1.2	.160 \pm .009	.213 \pm .011	.627 \pm .020
1.2 - 1.6	.206 \pm .016	.216 \pm .017	.578 \pm .029
1.6 - 2.4	.269 \pm .031	.211 \pm .027	.520 \pm .043
weighted average using hh , μh , and $e\mu$ events	.183 \pm .007	.198 \pm .007	.619 \pm .012

The misidentification probabilities determined from three-or-more prong hadronic events and other considerations are given in Table II. Compared to present experimental techniques the $P_{h \rightarrow e}$ and $P_{h \rightarrow \mu}$ misidentification probabilities of about 0.2 are enormous, but I could still show that the 24 $e\mu$ events could not be explained away.