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MASS DIFFERENCES OF K_L AND K_S MESONS

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Methods and Conditions of Experiment	$m_L - m_S$ in units of $\hbar/\tau_S \cdot c^2$	Statistics (number of cases)
Oscillations of K^0, registration of K_{e3} decays [1]:		
"Heavy" bubble chamber	0.47 ± 0.21 [2]	315
Oscillations of $\bar{K}^0$, registration of hyperons [3]:		
1. Propane bubble chamber	0.88 ± 0.22 [4]	
2. 25-inch hydrogen bubble chamber	0.50 ± 0.15 [5]	77
3. 80-inch hydrogen bubble chamber	$0.54 \pm {}^{0.09}_{0.14}$ [6]	95
4. 30-inch deuterium bubble chamber	0.72 ± 0.18 [7]	84
Oscillations in the $K^0 \to \pi^+\pi^-$ decay of scattered kaons [8]:		
30-inch deuterium bubble chamber	$+0.56 \pm 0.16$ [9]	72
Ratio of coherently- and diffraction-regenerated K_S^0 [10]:		
1. 30-inch propane bubble chamber, Fe regenerator	$0.84 \pm {}^{0.29}_{0.22}$ [11]	164
2. Magnetic spectrometer with spark chambers, Cu regenerator	$0.41 \, {}^{+0.25}_{-0.20}$ [12]	
Coherent regeneration as function of regenerator thickness [13]:		
1. Magnetic spectrometer with spark chambers, Cu regenerator	0.76 ± 0.20 [14]	
2. Spark chambers without magnetic field, Fe regenerator	0.72 ± 0.15 [15]	
3. Magnetic spectrometer with spark chambers, Cu and Al regenerators	$0.53 \, {}^{+0.10}_{-0.11}$ [16]	
Interference of K_S^0 coherently regenerated in two regenerators [17, 18]		
1. Magnetic spectrometer with spark chambers, Cu regenerator (2.5 and 5 cm)	0.50 ± 0.10 [19]	
2. Spark chambers without magnetic field, regenerators of C (10.2 cm) and U (6.25 cm)	$+0.35 \pm 0.15$ [20]	
Interference of K_S^0 from target with regenerated K_S^0 [21]:		
Spark chambers in magnetic field	$+0.44 \pm 0.06$ [22]	
Interference of $K_S^0 \to \pi^+\pi^-$ and $K_S^0 \to \pi^+\pi^-$ [23]:		
1. Magnetic spectrometer with spark chambers, K_S^0 from regenerator (Cu)	0.445 ± 0.034 [24]	
2. Magnetic spectrometer with spark chambers, K_S^0 from regenerator (C)	0.480 ± 0.024 [25]	

Notes: 1. The table includes the results obtained with accuracy better than ± 0.3.

2. The absence of a sign in front of most results indicates that the absolute value $|m_L - m_S|$ was determined in these experiments.

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