

Lecture 20 Kaon Decay and Flavors Oscillation

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Today Topics

- ▶ Kaons decays
- ▶ Neutral kaons mixing and oscillation

Kaons decay

Kaons K^\pm, K^0 can decay via hadronic or leptonic processes

$$K^+ \rightarrow \mu^+ + \nu_\mu$$

$$K^+ \rightarrow \pi^+ + \pi^0$$

$$K^+ \rightarrow \pi^+ + \pi^+ + \pi^-$$

$$K^- \rightarrow \mu^- + \bar{\nu}_\mu$$

$$K^- \rightarrow \pi^- + \pi^0$$

$$K^- \rightarrow \pi^0 + \mu^- + \bar{\nu}_\mu$$

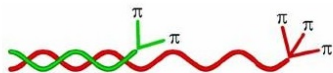
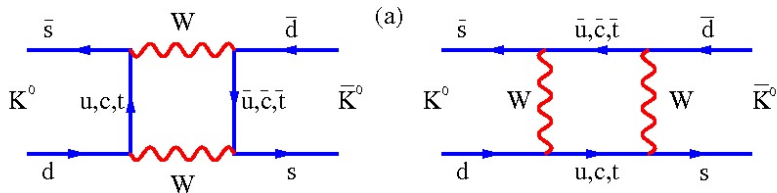
$$K_S^0 \rightarrow \pi^+ + \pi^- \quad K_S^0 \rightarrow \pi^0 + \pi^0$$

$$K_L^0 \rightarrow \pi^+ + \pi^- + \pi^0 \quad K_L^0 \rightarrow \pi^0 + \pi^0 + \pi^0$$

Strange mesons !!!

Neutral kaons mixing and oscillations

Neutral kaon mixing and oscillations



(a) Kaon Mixing