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Measurements of the Inclusive Branching Ratios of τ-Leptons to K^0_S and Charged $K^*(892)$

The OPAL Collaboration

Abstract

We describe measurements of inclusive branching ratios of the tau lepton to K^0_S and charged $K^*(892)$ using $Z^0 \to \tau^+\tau^-$ candidates collected with the OPAL detector at LEP during 1990–1992. From a total of 61 854 tau candidates we find:

$$\begin{aligned} Br(\tau^- \to K^0_S X^- \nu_\tau) &= 0.97 \pm 0.09(\text{stat.}) \pm 0.06(\text{syst.})\,\% \\ Br(\tau^- \to K^{*-} \geq 0 h^0 \nu_\tau) &= 1.94 \pm 0.27(\text{stat.}) \pm 0.15(\text{syst.})\,\% \end{aligned}$$

where X^- refers to any configuration of particles with charge -1 and h^0 is any neutral hadron other than the K^0_S.

(to be submitted to Physics Letters B)