

Search for Lepton Flavor Violation in a Super-Tau Factory

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A new high intensity e^+e^- linear collider serving as tau-charm factory is proposed. The design luminosity is $10^{35} \text{ cm}^{-2}\text{s}^{-1}$ and more for center of mass energies of $\sqrt{s} = 1\text{-}5 \text{ GeV}$ in the resonance region of Ψ vector mesons and in the region of maximum cross section for tau pair production.

This new facility would provide about 10^{11} tau lepton pairs per year. Besides enabling precision studies of τ leptons and searches for rare τ decays the main physics goal is the search for Lepton Flavor Violation with a sensitivity of about 10^{-11} and the search for CP-Violation in the charged lepton sector.