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### **The New Pi-e-nu Experiments<sup>1</sup>**

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Electron-muon universality in weak interaction has been tested at the 0.16% level by comparing the branching ratios of two pion decay modes,  $\pi^+ \rightarrow e^+ + \nu_e$  and  $\pi^+ \rightarrow \mu^+ + \nu_\mu$ ;  $R^{e/\mu} = \Gamma(\pi^+ \rightarrow e^+ + \nu_e)/\Gamma(\pi^+ \rightarrow \mu^+ + \nu_\mu) = (1.231 \pm 0.004) \times 10^{-4}$ . The smallness of the value  $R^{e/\mu}$  is owing to the helicity suppression in the  $\pi^+ \rightarrow e^+ \nu_e$  decay, and because of this, the measurement of  $R^{e/\mu}$  is sensitive to pseudo-scaler type of couplings, which arise in many extensions of the standard model of particle physics. In addition, the effect of the pseudo-scaler interaction comes as an interference term with the dominant axial-vector term, thus the contribution from the pseudo-scaler interaction is proportional to  $1/\Lambda^2$  where  $\Lambda$  is a mass scale of the new interaction. The measurement of a 0.1% level of  $R^{e/\mu}$  corresponds to 1000 TeV of the mass scale  $\Lambda$ . New experiments aiming to measure  $R^{e/\mu}$  to an accuracy at a level of 0.05% are ongoing in both TRIUMF and PSI. The details of the experiment at TRIUMF (PIENU) will be explained in this talk. The experiment at PSI (PEN) will be also explained in comparison with PIENU.

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