Muon Physics at J-PARC

H. Natori[1]

[1] *Institute of Particle and Nuclear Studies, KEK, Tsukuba, Ibaraki 305-0801, Japan*

 # a corresponding author: natori@post.kek.jp

Elementary particle physics explores a fundamental principle of the nature mainly by two means, energy frontier and intensity frontier. Experiments using high energy beam gives possibility to produce and examine new particles. Experiments using intense beam gives opportunity to precisely measure parameters of known elementary particles and to search for undiscovered rare reactions. Muon physics is playing one of the most important roles in the intensity frontier, and a new upper limit on a branching fraction of $\mu \rightarrow e\gamma$ decay given by MEG [1] using intense DC muon beam at PSI gathers much attention. J-PARC offers excellent experimental site in muon physics by its intense pulsed muon beam, and several experiments are planed [2][3][4][5]. Muon physics in J-PARC and environments surrounding it are summarized.

References

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