

Summary of KEK-TRIUMF Workshop on the Ultra Slow Muons at J-PARC

This workshop was held on March 8 and 9, 2012 at TRIUMF and was attended by a select group of invited participants from both TRIUMF and KEK as well as the leader of the low energy muon group at PSI. The purpose of the workshop was to review progress and plans for the ultra slow muon facility at J-PARC and to identify ways in which TRIUMF might play a role in optimizing the beam properties and spectrometer designs. A cloud of ultra slow muons, created from laser ionization of thermal muonium, will be used to create a high quality beam of low energy polarized muons which has wide applications in condensed matter and other areas of muon physics such as a new $g-2$ experiment. The new J-PARC facility would be a natural complement to the upgraded CMMS at TRIUMF with its new state of art conventional muon beamlines and recently developed beta-NMR spectrometers. One conclusion from the workshop is that there is considerable expertise at TRIUMF that could help in several areas of the ongoing design for the spectrometers, laser ionization, low energy beam transport and separator designs. In particular many aspects of the beta-NMR spectrometers at TRIUMF could be used at J-PARC. There are also several ways to increase the polarization of the beam using concepts required for polarizing radioactive nuclei. It is clear that a stronger collaboration between KEK and TRIUMF in this area would help increase productivity in both labs by sharing expertise, creating easier access to users of both facilities and ensuring that experiments are done under optimum conditions.