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International Session (Oral) | Symbol U (Union) | Union

## [U-02\_28AM2]Particle Geophysics

Convener:\*Hiroyuki Tanaka(Earthquake Research Institute, the University of Tokyo), Hiroko Watanabe(RCNS,Tohoku-U), Cristiano Bozza(U-Salerno), Dominique Gibert(IPGParis), William McDonough(U-Maryland), John Learned(U-Hawaii), Chair:Hiroyuki Tanaka(Earthquake Research Institute, the University of Tokyo)

Mon. Apr 28, 2014 11:00 AM - 12:42 PM 419 (4F)

The great success in the imaging of volcanoes with elementary particles called muons (muography) as well as in the detection of neutrinos generated inside the earth (geo-neutrinos) has resulted in observation opportunities completely independent from the capabilities of conventional geophysical methods. By facilitating the future goals and concerns of the geophysical community, ideally shared among the muography observation group, geo-neutrino observation group, and earth scientists through international and interdisciplinary interactions, the aim is to strengthen the evolution of particle geophysics. Various muographical projects have been promoted worldwide, and each international group has been producing valuable results. Concerning geo-neutrino detection, the quantity of radioactive materials generating heat inside the Earth will be recognized via the frequency of geo-neutrino counts. Since this radioactive heat generation reflects the geodynamics and the chemical composition of the building blocks of our planet, improvements to measurement accuracy will likely yield useful geo-scientific information in the near future. With active cooperation between international communities, we aspire to expand the frontiers of earth observation techniques.

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11:45 AM - 11:54 AM

## [U02-P08\_PG]The next-generation KamLAND electronics

3-min talk in an oral session

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Keywords:Neutrino detector, Data taking, electronics

KamLAND was constructed to detect the low energy anti-neutrinos. And then, KamLAND detected reactor neutrinos and solved solar neutrino problem on 2003. And furthermore, KamLAND detected geo-neutrinos for the first time in the world on 2005. Currently, KamLAND has already been beginning to search several new physics. However, searching new physics in the detector of 10 years ago is difficult. So, it is necessary to update the detector. We are planning to update the KamLAND. As this updating, KamLAND electronics will be renewed using the latest technologies. The next-generation KamLAND electronics will certainly contribute to geoscience.