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Earth Sounding with high energy Particle Radio Tomography

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Recently, high energy particle radiography has been successfully applied to the targets of geophysical interests. In particular, works on the images of volcanoes, such as Asama-yama, Showa-shinzan, and Satsuma-iwojima, are quite popular among solid earth scientists. Besides the muon radiography, an international project ICECUBE is currently in operation by counting neutrino in the holes drilled at the south pole. We believe that now is the time for the solid earth scientists to step forward to strengthen the collaboration with high energy physicists because it has a potentially profound impact on volcanology, seismology, and so on.

Earthquake Research Institute of the Tokyo University has just established "High Energy Particle Geophysics Research Center" in April 2010. It is oriented to nurture the High Energy Particle Geophysics in the embryonic stage so that it may be grown up to bring about breakthroughs in many fields of the solid earth science. We will present several big research projects under consideration and encourage potential collaborators to discuss the direction of the High Energy Particle Geophysics

Keywords: high energy particle, muon, radiography, volcano, fault and fracture zone