



Contribution ID: 62

Type: Oral

EARTH, a meeting of neutrino- and nuclear- physics.

Tuesday, 25 February 2020 15:00 (20 minutes)

Over the past 15 years, in the consortium EARTH (Earth Antineutrino Tomography), low energy experiments have been carried out with the detection of antineutrinos as a theme. The ultimate goal was to learn more about the role of nuclear decay in the interior of the Earth [1-3]. This required developing direction sensitive antineutrino detection to detect geoneutrinos. Here searching for remnants of possible nuclear reactions may also provide clues [4]. Other experiments were done into whether neutrinos from the Sun have a greater influence on radioactive decay than is commonly accepted by using antineutrinos from reactors as a surrogate to investigate these claims [5]. The work done on these unfinished projects will be reviewed and some ideas for future work will be given.

[1] R.J. de Meijer et al., Earth, Moon and Planets 99 (2006) 193

[2] F.D. Smit et al., PoS (FNDA2006) 096

[3] F.D. Brooks et al., AIP Conference Proceedings 1412, 177 (2011)

[4] R.J. de Meijer et al., Radiation Physics and Chemistry 71 (2004) 769

[5] R.J. de Meijer et al., Applied Radiation and Isotopes 69 (2011) 320

Primary authors: Prof. DE MEIJER, Rob (Stichting EARTH, 9321 XS2, Peize, the Netherlands and Dept. of Physics, University of the Western Cape, Belleville, South Africa.); SMIT, Frederick (NRF iThemba LABS, Somerset West, South Africa)

Presenter: SMIT, Frederick (NRF iThemba LABS, Somerset West, South Africa)

Session Classification: Contributed Talks