

SUMMER INSTITUTE: USING PARTICLE PHYSICS TO UNDERSTAND AND IMAGE THE EARTH



Report of Contributions

Contribution ID: 0

Type: **not specified**

A short phenomenological description of the elementary particles; outline of quantum mechanics; outline of the restricted relativity

fiorenti(AT)fe.infn.it

Summary

Presenter: Prof. FIORENTINI, Giovanni (FE)

Contribution ID: 1

Type: **not specified**

Cosmic rays

achiavas(AT)to.infn.it

Summary

Presenter: Prof. CHIAVASSA, Andrea (TO)

Contribution ID: 3

Type: **not specified**

Particle detection techniques

Gioacchino.Ranucci(AT)mi.infn.it

Summary

Presenter: Dr RANUCCI, Gioacchino (MI)

Contribution ID: 5

Type: **not specified**

Origin and evolution of the Earth (Composition. Methods to study the Earth: geology, mineralogy, petrology, geochemistry, geodynamics); Geochemical model of the earth; Earth mineralogy and its phase transition; Distribution of radioactive nuclides in the Earth; Calculating the Earth heat and the neutrino luminosity

mcdonoug(AT)umd.edu

Summary

Presenter: Prof. MCDONOUGH, William (Maryland University)

Contribution ID: 6

Type: **not specified**

Geodynamic picture of the Earth; basic of heat flow; The earth's heat budget; Thermal evolution of the Earth; Evaluation of the Earth's K-Th-U and He-Ne-Ar budgets

ondrej.sramek(AT)gmail.com

Summary

Presenter: Dr SRAMEK, Ondrej (Charles University, Prague)

Contribution ID: 8

Type: **not specified**

Basics of seismology and Earth structure

fabio.cammarano(AT)uniroma3.it

Summary

Presenter: CAMMARANO, Fabio (Roma Tre University)

Contribution ID: 28

Type: **not specified**

Neutrino physics and detection methods & How to measure 40K

mchen(AT)queensu.ca

Summary

Presenter: Prof. CHEN, Mark (Queen's University, Kingston)

Contribution ID: 33

Type: **not specified**

Mineralogy and petrology; Crust and mantle geodynamics and mantle convection

tsuchiya.taku.mg(AT)ehime-u.ac.jp

Summary

Presenter: Prof. TSUCHIYA, Taku (Ehime Univ.)

Contribution ID: 35

Type: **not specified**

Radioactive nuclides and decay

oliviero.cremonesi(AT)mib.infn.it

Summary

Presenter: Prof. CREMONESI, Oliviero (MIB)

Contribution ID: 39

Type: **not specified**

Muon and their detection; Muography techniques, study of volcanoes perspective

carlogan(AT)in2p3.fr

Summary

Presenter: Dr CARLOGANU, Cristina (IN2P3)

Contribution ID: 41

Type: **not specified**

Geoneutrinos: origin, detection, background (from reactors and other sources), current geoneutrino measurements, future on geoneutrinos

Livia.ludhova(AT)mi.infn.it

Summary

Presenter: Prof. LUDHOVA, Livia (RWTH Aachen Univ. And FZ Julich IKP-2)

Contribution ID: 48

Type: **not specified**

Evaluation of local contribution; Error estimation and propagation

mantovani(AT)fe.infn.it

Summary

Presenter: Prof. MANTOVANI, Fabio (FE)

Contribution ID: 54

Type: **not specified**

Neutrino tomography (generalities)

walter.winter(AT)desy.de

Summary

Presenter: Prof. WINTER, Walter (DESY)

Contribution ID: 55

Type: **not specified**

Neutrino tomography (experiments)

elewyck(AT)apc.univ-paris7.fr

Summary

Presenter: Prof. VANELEWYCK, Véronique (APC-Paris 7)

Contribution ID: 56

Type: **not specified**

Muon tomography applied to volcanology and other fields

marteau(AT)ipnl.in2p3.fr

Summary

Presenter: Prof. MARTEAU, Jaques (IPIN-IN2P3- Lyon)

Contribution ID: **61**

Type: **not specified**

Directionality in neutrino detection

hiroko(AT)awa.tohoku.ac.jp

Summary

Presenter: Prof. WATANABE, Hiroko (Tohoku University)

Contribution ID: 63

Type: **not specified**

Time-resolved two million year old supernova activity, discovered in the Earth's microfossil record

shawn.bishop(AT)ph.tum.de

Summary

Presenter: Prof. BISHOP, Shawn (Technische Universität München)

Contribution ID: 65

Type: **not specified**

Volcano structure and eruption

Summary

Presenter: Dr MACEDONIO, Giovanni (INGV, Osservatorio Vesuviano)

Contribution ID: 76

Type: **not specified**

IBD directionality measurement at the Double Chooz Experiment

kaneda(AT)hep.phys.titech.ac.jp

Summary

Presenter: Dr KANEDA, Michiru (Tokyo Institute of Technology)

Contribution ID: 79

Type: **not specified**

Calculation of antineutrino rate from the reactors

Livia.ludhova(AT)mi.infn.it; mantovani(AT)fe.infn.it; ricci(AT)fe.infn.it; zavatare(AT)ge.infn.it; baldoncini(AT)fe.infn.it

Summary

Presenters: RICCI, Barbara (FE); MANTOVANI, Fabio (FE); LUDHOVA, Livia (MI); BALDONCINI, Marica (FE); ZAVATARELLI, Sandra (GE)

Contribution ID: **80**

Type: **not specified**

Extraction of the geoneutrino flux from the experimental event distributions

Livia.ludhova(AT)mi.infn.it; stefano.davini(AT)gssi.infn.it; matteo.agostini(AT)gssi.infn.it; simone.marcocci(AT)gssi.infn.it; nicola.rossi(AT)lngs.infn.it

Summary

Presenters: LUDHOVA, Livia (MI); AGOSTINI, Matteo (Technische Universität München); ROSSI, Nicola (LNGS); MARCOCCI, Simone (GSSI); DAVINI, Stefano (GSSI)

Contribution ID: **81**

Type: **not specified**

Presentation of the School

gianpaolo.bellini(AT)mi.infn.it
eugenio.coccia(AT)gssi.infn.it

Summary

Presenters: Prof. COCCIA, Eugenio (ROMA2); Prof. BELLINI, Gianpaolo (MI)

Contribution ID: **82**

Type: **not specified**

Visit to LNGS underground labs

stefano.davini(AT)gssi.infn.it
nicola.rossi(AT)lngs.infn.it

Summary

Presenters: ROSSI, Nicola (LNGS); DAVINI, Stefano (GSSI)