

Conference Program (preliminarily)

PLENARY SESSIONS

Tuesday, September 11

Morning - Main hall

09:00 Welcome to TAUP2007

A. Suzuki

Chair : **K. Inoue**

0 – INTRODUCTION

09:10 Astroparticle Physics: Puzzles and discoveries.....**V. Berezhinsky**

1 – COSMOLOGY

09:50 The cosmological model: an overview and an outlook.....**A. Heavens**

10:25 Anisotropies of Cosmic Microwave Background and Its Polarization..... **N.Sugiyama**

11:00 *Coffee Break*

Chair : **D. Vignaud**

11:25 Models for dark Energy.....**C. Wetterich**

2 – GRAVITATIONAL WAVES

12:00 Gravitational waves from extreme mass-ratio inspirals..... **T. Tanaka**

12:35 Review of experiments**A. Giazotto**

13:15 *Lunch Break*

Tuesday, September 11

Afternoon

WORKSHOP SESSIONS

14:40 Cosmological Issues (Room C)

Conveners: **S. Hannestad, M. Kawasaki, E.Masso**

14:40 Gravitational waves **I** (Room B)

Conveners:**B. Barish, E. Coccia, S. Kawamura**

14:45 Dark matter / antimatter in space **I** (Room A)

Conveners: **A. Bottino, J. Morales, T. Moroi**

3 – Dark matter in Universe

Chair: G. Raffelt

- 09:00 Review of direct searches for WIMPs (non-cryogenic detectors)**P. Belli**
- 09:35 Review of direct searches for WIMPs (cryogenic detectors)**G. Gerbier + D. Bauer**
- 10:10 Particle dark matter candidates.....**S. Scopel**
- 10:45 *Coffee Break*

Chair: T. Ebisuzaki

- 11:15 Dark matter distribution in the galactic halo.....**J. Diemand**

4 – Antimatter in space

- 11:50 Observation of antimatter in our Galaxy.....**P. Picozza**
- 12:25 Antimatter and gammas from dark matter annihilation.....**L. Bergstrom**
- 13.00 *Lunch Break*

WORKSHOP SESSIONS

- 14:30 Gravitational waves **II** (Room C)
 Conveners:**B. Barish, E. Coccia, S. Kawamura**
- 14:30 Dark matter / antimatter in space **II** (Room A)
 Conveners:**A. Bottino, J. Morales, T. Moroi**
- 14:30 HE astrophysics **I** (Room D)
 Conveners:**E. Lorenz, P. Michelson, M. Mori, G. Navarra**
- 14:30 Solar, reactor and other low-energy neutrino physics **I** (Room B)
 Conveners:**G. Fogli, V. Matveev, M. Nakahata, D. Sinclair, F. Suekane**

Thursday, September 13

Morning - Main hall

Chair: **R. Raghavan**

- 09:00 Neutrinos: current status and perspectives**M. Lindner**
09:35 Solar experiments.....**M. C. Chen**
10:10 Atmospheric and long-baseline neutrinos.....**K. Nakamura**
10:45 *Coffee Break*

Chair: **E.Lisi**

- 11:15 MnibooNE results on oscillations and its implications.....**M. Shaevitz**
11:50 Double-beta decays.....**F. Piquemal**
12:25 Reactor Neutrino Oscillation Experiments: Recent results and future Prospects..**K. Heeger**
13.00 *Lunch Break*

Thursday, September 13

Afternoon

WORKSHOP SESSIONS

- 14:30 Dark matter / antimatter in space **III** (Room A)
Conveners:**A. Bottino, J. Morales, T. Moroi**
14:30 Solar, reactor and other low-energy neutrino physics **II** (Room B)
Conveners:**G. Fogli, V. Matveev, M. Nakahata, D. Sinclair, F. Suekane**
14:30 Atmospheric neutrinos and high-energy neutrino beams **I** (Room C)
Conveners:**J. Bernabeu, T. Kajita, C. W. Kim, R. Plunkett**
14:30 Double beta decays **I** (Room D)
Conveners:**F. Avignone, E. Bellotti, T. Kishimoto**

Guided tour to Matsushima and Conference Dinner at Matsushima Taikanso

- 16:45 Buses will leave the conference site to Matsushima

Friday, September 14

Morning - Main hall

Chair: **T. Kirsten**

09:00 First Results of 7Be Solar Neutrinos from a real time detector : Borexino **G. Bellini**

09:35 Geo-neutrinos (theory and experiments)..... **F. Mantovani**

6 – Cosmic rays and neutrinos

10:10 Origin of UHECR (theory).....**S. Inoue**

10:45 *Coffee Break*

Chair: **F. Calaprice**

11:15 UHECR (observations).....**K. Kampert**

11:50 Acceleration of cosmic rays.....**E. Berezhko**

12:25 HE neutrinos (theory and experiment)**F. Halzen**

13.00 *Lunch Break*

Friday, September 14

Afternoon

WORKSHOP SESSIONS

14:30 Solar, reactor and other low-energy neutrino physics **III** (Room A)

Conveners:**G. Fogli, V. Matveev, M. Nakahata, D. Sinclair, F. Suekane**

14:30 Atmospheric neutrinos and high-energy neutrino beams **II** (Room B)

Conveners:**J. Bernabeu, T. Kajita, C. W. Kim, R. Plunkett**

14:30 Double beta decays **II** (Room C)

Conveners:**F. Avignone, E. Bellotti, T. Kishimoto**

14:30 HE astrophysics **II** (Room D)

Conveners:**E. Lorenz, P. Michelson, M. Mori, G. Navarra**

Saturday, September 15

Morning - Main hall

Chair: **J. Bluemer**

7 – Gamma rays

09:00 Gamma-rays astronomy (experiments)..... **W. Hofmann**

09:45 Gamma-rays sources..... **C. Dermer**

8 – 20th anniversary of SN1987A

10:20 20th anniversary of SN1987A.....**A. Suzuki**

11:05 *Coffee Break*

Chair: **H. Sobel**

9 – Underground laboratories

11:35 Underground laboratories..... **A. Bettini**

10– Panagic report / APEC road map report

12:20 Panagic report / APEC road map report.....**S. Katsanevas**

12.55 Farewell

WORKSHOP SESSIONS

Tuesday, September 11

Afternoon

Cosmological Issues (Room C)

Conveners: **S. Hannestad, M. Kawasaki, E. Masso**

Chair: **E. Masso**

- 14:40 **S. Saito**.....The impact of non-linear evolution of cosmological matter
power spectrum on the measurement of neutrino masses
- 15:05 **M. Takada**.....Subaru galaxy survey
- 15:30 **K. Ichikawa**.....Neutrino mass constraint from CMB
and its degeneracy with other cosmological parameters
- 15:55 **G. Mangano**.....Capturing relic neutrinos with beta decaying nuclei
- 16:20 *Coffee Break*
- 16:50 **S. Petcov**.....Low energy Dirac and Majorana leptonic CP-violation and Leptogenesis
- 17:15 **S. Blanchet**.....Dirac phase leptogenesis
- 17:40 **S. Scopel**.....Quintessential Kinaton and Leptogenesis
- 18:05 End of Session

Gravitational waves I (Room B)

Conveners: **B. Barish, E. Coccia, S. Kawamura**

Chair: **A. Giazotto**

- 14:40 **K. Kawabe**.....Status of LIGO
- 15:10 **S. Kawamura**.....The Japanese space gravitational wave antenna DECIGO
- 15:30 **M. Ando**.....DECIGO pathfinder
- 15:50 **S. Sato**.....Displacement noise free interferometry for gravitational wave detection
- 16:10 *Coffee Break*
- 16:40 **F. Frasconi**.....The status of VIRGO: a large interferometer
for Gravitational Wave detection
- 17:10 **S. Reid**.....Status of GEO600
- 17:40 **A. Heptonstall**.....Development of fused silica suspensions fibres
for advanced gravitational wave detectors
- 18:00 End of Session

Dark matter / antimatter in space I (Room A)

Conveners:**A.Bottino, J. Morales, T. Moroi**

Chair:T.Moroi

14:45 **T. Asaka**.....Right-handed sneutrino as cold dark matter of the universe

15:05 **M. Yamanaka**.....Dark matter in universal extra dimension models
with right-handed neutrinos

15:25 **Y. Sendouda**.....Cosmic rays emitted by primordial black holes
in a five-dimensional Randall- Sundrum braneworld

15:45 **S. Horiuchi**Dark matter annihilation in the Milky Way halo

16:05 **A. Sabellek**.....Rare components in cosmic rays with AMS-02

16:25 *Coffee break*

16:55 **J. Koglin**.....Antideuterons as an Indirect Dark Matter Signature:
Design and Preparation for a Balloon-born GAPS Experiment

17:15 **H - M. Chang (TEXONO Collaboration)** ...Search of axions from a nuclear power reactor
with a high-purity germanium detector

17:35 **H. Wong (TEXONO Collaboration)**Dark Matter Searches with a 100 eV threshold
Germanium Detector

17:55 **Y. Inoue**.....Latest result from the Tokyo axion helioscope

18:15 **C. Galbiati**.....Initial Results on Exploration of Deep Underground Sources of Argon

18:35 End of Session

Gravitational waves II (Room C)

Conveners:.....**B. Barish, E. Coccia, S. Kawamura**

Chair: **E. Coccia**

14:30 **M. Visco**.....IGEC2 Collaboration: a network of resonant bar detectors searching for gravitational wave bursts

15:00 **M. Ohashi**.....Status of LCGT and CLIO

15:30 **K. Hayama**.....Searches for gravitational waves triggered by the observation of astronomical events

15:50 *Coffee break*

16:20 **K. Arai**.....Recent progress of TAMA300

16:50 **D. Tatsumi**.....TAMA300 interferometer development

17:10 **H. Tagoshi**.....Results of the search for inspiraling compact star binaries from TAMA300's observation in 2000-2004

17:30 **N. Kanda**.....Short gravitational wave signal searches in TAMA300 data : stellar core collapse and black hole

17:50 End of Session

Dark matter / antimatter in space II (Room A)

Conveners:**A. Bottino, J. Morales, T. Moroi**

Chair:**A. Bottino**

14:30 **V. Kudryavtsev**.....The ZEPLIN-II experiment

14:50 **E. Aprile**.....Dark Matter Search Results from the XENON10 Experiment

15:10 **G. Gerbier**..... Search for Dark Matter with EDELWEISS : status and future

15:30 **R. Cerulli**..... From DAMA/NaI to DAMA/LIBRA and beyond

15:50 **I. Ogawa**..... The ELEGANT VI experiment

16:10 **W. Seidel**.....The CRESST experiment

16:30 *Coffee break*

17:00 **S. K. Kim**..... Results from the KIMS experiment

17:20 **K. Abe**..... The XMASS experiment

17:40 **B. Odom**..... The COUPP detector

18:00 **P. Otyugova**.....The ArDM, a Ton-Scale Liquid Argon Experiment for Direct Dark Matter Detection

18:20 **K - I. Fushimi**.....The PICO-LON detector
18:40 **H. Nishimura**.....The NEWAGE experiment
19:00 End of Session

HE Astrophysics I (Room D)

Conveners:**E. Lorenz, P. Michelson, M. Mori, G. Navarra**

Chair: **Y. Takahashi**

14:30 **K. Hoshina**..... Diffuse high-energy neutrino searches in AMANDA-II
and IceCube results and future prospects
14:50 **V. Bertrand**.....Status report on the ANTARES Neutrino Telescope
15:10 **T. Montaruli**..... First results of the IceCube Observatory
on High Energy Neutrino Astronomy
15:30 **P. Sapienza**.....NEMO
15:50 **P. Rapidis**.....The KM3NET Design Study
16:10 **O. Deligny**.....EHE Neutrino flux by the Pierre Auger observatory
16:30 *Coffee break*

Chair: **M. Mori**

17:00 **J. Bluemer**.....EAS Radio Detection with LOPES
17:20 **Y. Takahashi**.....JEM EUSO mission on International Space Station
17:40 **A. Misaki**.....On the Characteristics of the Neutrino Events in (Ultra-)High Energy
Astrophysics Experiment from the view point of Energy Determination
18:00 **M.A. Nasr**.....Study of dynamical fluctuations and Levy stability
in silicon-nucleus collisions at high energy
18:20 **K. Murase**.....High energy neutrino background from GRBs
18:40 **K. Hochmuth**Effects of Axion-Photon Mixing on Gamma-Ray Fluxws
from Magnetized Astrophysical Sources
19:00 End of the Session

Solar, reactor and other low-energy neutrino physics I (Room B)

Conveners:**G. Fogli, V. Matveev, M. Nakahata, D. Sinclair, F. Suekane**

Chair: **F. Suekane, D. Sinclair**

Solar & Low BG Techniques

14:30 **Y. Takeuchi**.....Low-energy neutrino observation at Super-Kamiokande-III
14:50 **C. Kraus**.....News from the Sudbury Neutrino Observatory

15:10 **Y. Kishimoto**.....KamLAND (purification status)
15:30 **K. Lesko**.....DUSEL
15:50 *Coffee break*
16:20 **V. Gavrin**.....SAGE:status and future
16:40 **T. Kirsten**.....Retrospect of GALLEX/GNO
17:00 **R. Raghavan**LENS,MINILENS—Status
17:20 **G. Zuzel**.....Low-level techniques applied in the experiments looking for rare events
17:40 **T. Rashba**.....Low energy neutrino experiments sensitivity
to physics beyond the Standard Model
18:00 End of Session

Dark matter / antimatter in space III (Room A)

Conveners: **A. Bottino, J. Morales, T. Moroi**

Chair: T. Moroi

- 14:30 **M. Tytgat**.....The Inert Doublet Model: a new Archetype of wimp Dark Matter
- 14:50 **X.- F. Navick**Status of the R&D for surface events
rejection in the EDELWEISS experiment
- 15:10 **V. Kudryavtsev**..... Neutron background at the Boulby Underground Laboratory
- 15:30 **C. Nones**.....Methods to identify and eliminate surface background events
in bolometric detectors for very rare events search
- 15:50 **D. Dujmic**.....Progress in directional Dark Matter detection:
observation of the Head-Tail effect with low-energy neutrons
- 16:10 End of Session

Solar, reactor and other low-energy neutrino physics II (Room B)

Conveners:**G. Fogli, V. Matveev, M. Nakahata, D. Sinclair, F. Suekane**

Chair: M. Lindner

Super Nova

- 14:30 **T. Marrodan**.....LENA: A multipurpose detector for low energy
neutrino astrophysics and proton decay
- 14:50 **E. Lisi**.....Collective neutrino flavor transitions in Supernovae:
analytical and numerical aspects
- 15:10 **S. Kawagoe**.....Constraints of oscillation parameters
through MSW effect of SN neutrino(Temp)
- 15:30 **G. Raffelt**.....Non-linear neutrino oscillations in core collapse supernovae
- 15:50 End of Session

Atmospheric neutrinos and high-energy neutrino beams I (Room C)

Conveners:.....**J. Bernabeu, T. Kajita, C. W. Kim, R. Plunkett**

Chair: C. W. Kim

- 14:30 **Y. Itow**.....Atmospheric neutrino results from Super-Kamiokande
- 14:55 **P. Desiati**...Measurement of the atmospheric neutrino flux with AMANDA-II and IceCube
- 15:20 **A. Mirizzi**.....Impact of three-flavor oscillations (in vacuum and in matter)

on solar atmosphere neutrinos

15:55 **E. Akhmedov**.....Neutrino oscillograms of the Earth CP violation
and future atmospheric neutrino experiments

16:20 End of Session

Double beta decays I (Room D)

Conveners:**F.Avignone, E. Bellotti, T. Kishimoto**

Chair: T.Kishimoto

14:30 **S. Petcov**Neutrino Physics Prospects of Neutrinoless
Double Beta Decay Experiments

15:00 **H. Ohsumi**NEMO-3

15:30 **J. Wilson**.....The COBRA experiment aims to search for
neutrinoless double beta decay in CdZnTe

15:50 **N. Ishihara**.....DCBA experiment for searching for neutrinoless double beta decay

16:10 **H. Ejiri**....Majorana mass sensitivities of double beta decays and nuclear matrix elements

16:30 End of Session

Friday, September 14

Afternoon

Solar, reactor and other low-energy neutrino physics III (Room A)

Conveners:**G. Fogli, V. Matveev, M. Nakahata, D. Sinclair, F. Suekane**

Chair: M. Nakahata, F. Suekane

Solar

14:30 **M. Pallavicini**.....Scintillator purification, detector performance
and data analysis of Borexino

Reactor and Direct mass

14:50 **I. Shimizu**.....KamLAND(anti neutrino status)

15:10 **M. Motoki**.....Double Chooz – A reactor theta-13 experiment

15:30 **S. Chen**.....The Daya Bay Reactor Neutrino Experiment

15:50 *Coffee break*

16:20 **S - B. Kim**.....RENO: Reactor Neutrino Experiment at Yonggwang

16:40 **S - T. Lin**.....Low Energy Neutrino Physics at the Kuo-Sheng Nuclear Power
Station with Low Threshold Germanium Detectors

17:00 **M. Batygov**.....Neutrino Mass Hierarchy and Theta(13) Determination
by Remote Detection of Reactor Antineutrinos

17:20 **H. Robertson**.....KATRIN: an Experiment to Determine the Neutrino Mass

17:40 **F. Gatti**.....MARE: an experiment for the calorimetric direct
search of neutrino mass with sub eV sensitivity

Atmospheric neutrinos and high-energy neutrino beams II (Room B)

Conveners:**J. Bernabeu, T. Kajita, C. W. Kim, R. Plunkett**

Chair: R. Plunkett

14:30 **E. Radicioni**.....Hadro-production results from the HARP experiment

14:50 **A. Blake**.....Latest Results from the MINOS Experiment

15:10 **C. Jollet**.....OPERA experiment

15:30 **Y. Nakajima**.....Status of FNAL SciBooNE experiment

15:50 **H. Kakuno**.....Status and Physics of the T2K experiment

16:10 *Coffee break*

Chair: E. Akhmedov

16:30 **R. Plunkett**.....The NOVA experiment

17:00 **T. Kajita**.....Updating the future neutrino oscillation experiment

with the Kamioka-Korea 2 detector setup

17:20 **J. Kameda**.....Search for nucleon decay and n-nbar oscillations in Super-Kamiokande

17:40 End of Session

Double beta decays II (Room C)

Conveners:**F. Avignone, E. Bellotti, T. Kishimoto**

Chair: F. Avigone

14:30 **A. Giuliani**.....From Cuoricino to CUORE:
investigating the inverted hierarchy region of neutrino mass

15:00 **H. Simgen**Status of the GERDA experiment

15:30 **Y. Hirano**.....CANDLES

15:50 **H. Ohsumi**.....Super NEMO

16:10 **T. Shima**.....MOON for next-generation neutrinoless double beta decay experiment;
present status and perspective

16:30 *Coffee Break*

Chair: E. Bellotti

17:00 **K.O'Sullivan**.....EXO: an Enriched Xenon Observatory for Double Beta Decay

17:30 **A. Barabash**.....New limits on b+EC and ECEC processes in ^{74}Se and ^{120}Te

17:50 **S. Umehara** Double Beta Decays of ^{48}Ca with CaF_2 (Eu)

18:10 **E. Nikitina**...Production Association "'Electrochemical Plant"' : Production of enriched
stable isotopes for large-scale experiments in underground physics

18:30 **F. Avignone**.....The Majorana project

18:50 End of Session

HE Astrophysics II (Room D)

Conveners:**E. Lorenz, P. Michelson, M. Mori, G. Navarra**

Chair: M. Mori

14:30 **C. Cecchi**.....GLAST Large Area Telescope

14:50 **Y. Yukawa**.....Recent results from CANGAROO-III

15:10 **T. Jogler**.....A detailed study of the gamma ray emission from the High Mass X-ray
Binary LS I +61 303 in TeV energies by the MAGIC telescope

15:30 **S. Torii**.....The CALET Mission for detection of cosmic ray source and dark matter

15:50 **T. Shibata**.....Diffusive gamma-rays and antiprotons

16:10 **P. Bernardini**ARGO-YBJ experiment

16:30 *Coffee break*

17:00 **M. Bertaina**.....The primary spectrum in the transition region between
direct and indirect measurements (10TeV-10PeV)

17:20 **K. Kawata**.....Tibet Air Shower Array Results and Future Plan

17:40 **S. Das**.....Propagation of UHE protons through a magnetized large scale structure

18:00 **J. Bluemer**.....The KASCADE-Grande Experiment

18:20 **H. Tokuno**.....The Telescope Array

18:40 **Y. Itow**.....LHCf experiment

19:00 End of Session

POSTER SESSIONS (Core Time: Friday, September 14 17:45~19:45)

Cosmological Issues

- C. Rott.....Indirect Searches for Dark Matter with IceCube
A.Mirizzi.....A new cosmological bound on neutrino radiative decays

Gravitational waves

- T. Akutsu.....An analysis of the first observation data of CLIO for gravitational waves

Dark matter / antimatter in space

- X-F. Navick.....Status of the R&D for surface events rejection
in the EDELWEISS experiment

Solar, reactor and other low-energy neutrino physics

- A. Terashima.....R&D for possible future improvements of KamLAND
H. Suzuki.....Theta13 and Hierarchy by SN neutrinos
F. Habermehl.....Measurements with the KATRIN Pre-Spectrometer
Y. Fukuda..... InP Detector for solar $pp^7\text{Be}$ neutrino detections
Y. Konno.....Quality Study Purified Liquid Scintillator
K. Ichimura.....Background study for KamLAND Reactor Neutrino experiment
C. M. Cattadori.....Updated results from the 3 ton Gd loaded liquid
scintillator target after 2 years of data taking at LNGS.
F. Calaprice.....Scintillator Purification and Containment

Atmospheric neutrinos and high-energy neutrino beams

- A. Misaki.....Comprehensive Analysis of Neutrino Events in Super-Kamiokande Type
Detector from the view point of Computer Numerical Experiment

Double beta decays

- Y. Tsubota.....CANDLES light Guide system(temp)
G. Ito.....CANDLES trigger system(temp)
N. Ishihara.....DCBA experiment for searching for neutrinoless double beta decay
T. Kurenkova.....Supply of stable isotopes from Russia

HE Astrophysics

- M. Ono.....EHE neutrino induced events near the IceCube detector