**VLVnT08**

**International Workshop on a Very Large Volume**

**Neutrino Telescope for the Mediterranean Sea**

**Toulon, Var, France : 22-24 April 2008**

**Table of Contents (Sessions)**

**with papers in each section**

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| **Monday 21 April 2008** |  |

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| 18:00  | Welcome cocktail and Registration |

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| **Tuesday 22 April 2008** |

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| 08:30  | Registration |

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| 09:00*->18:30*    **Plenary Session I** (Salle Colbert )

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| Chairs: Luciano Moscoso (APC Paris): Morning, Luke Drury (IAS Dublin): Afternoon |

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| 09:00 | Introduction and Welcome  |  |
|  | * Introduction and Welcome

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| Director : Centre de Physique des Particules de Marseille (CPPM) ; host institute for the ANTARES underwater neutrino telescope |

 | Eric KAJFASZ (*CPPM*)  |
|  | * Welcome address

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| Sénateur-Maire du Var, la Valette du Var,Première Vice-Présidente de la communauté d'agglomération Toulon-Provence-Méditerrannée, responsible for Economic Development |

 | Christiane HUMMEL |

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| 09:30 | Status of the ANTARES underwater neutrino telescope  | Marco CIRCELLA (*INFN Bari*)  |
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| 10:10 | Status and prospects of IceCube neutrino telescope  | Elisa RESCONI (*MPI Heidelberg*)  |
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| 10:50  | coffee break |

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| 11:20 | The BAIKAL neutrino experiment: status, selected physics results, and perspectives  | Vladimir AYNUDTINOV (*R.A.S. Moscow*)  |
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| 11:50 | EMSO: the European Multidisciplinary Seafloor Observation  |  Paolo FAVALI (*INGV Rome*)  |
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| 12:30  | lunch break |

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| 14:00 | The Status of Very High Energy Gamma-ray Astronomy as of early 2008  | Arache DJANATTI-ATAI (*APC Paris*)  |
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| 14:30 | Status of extensive air shower studies at Auger  | Etienne PARIZOT (*Paris-7*)  |
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| 15:00 | Status of the KM3NeT project  | Ulrich KATZ (*Friedrich-Alexander Universitat Erlangen-Nurnberg*)  |
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| 15:30 | Status of the NEMO Project  |  Antonio CAPONE (*Univ. Roma "La Sapienza" & INFN, Roma*)  |
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| 16:00  | Coffee break |

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| 16:30 | Status of the NESTOR underwater neutrino  | Petros RAPIDIS (*INP Demokritos, Greece*)  |
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| 17:00 | Flavor Distribution of UHE Neutrino Oscillations at Neutrino Telescopes  | Zhi-Zhong XING (*Institute of High Energy Physics, Chinese Academy of Sciences*)  |
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| 17:30 | Transformative Ocean Science through the VENUS and NEPTUNE Canada Ocean Observing Systems  | Stephen M. TAYLOR (*Ocean Networks Canada*)  |
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| 20:00  | Conference Banquet |

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| **Wednesday 23 April 2008** |

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| 08:30*->16:00*    **Parallel session on Physics** (Salle Raimu-A )(Conveners: Stella Bradbury (*Univ.* *Leeds*) , Alexander Kappes (*Univ Wisconsin-Madison*))  |
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| 08:30 | Results from the NEMO Phase1 experiment  | Isabella Amore (*INFN-Laboratori Nazionali del Sud*)  |
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| 08:50 | ANTARES time calibration  | Francisco Salesa (*IFIC-Valencia*)  |
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| 09:10 | Atmospheric muons in the ANTARES detector  | Annarita Margiotta (*INFN* & *Univ. Bologna*)  |
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| 09:30 | Monte Carlo simulation studies of the timing calibration accuracy required by the NEMO underwater neutrino telescope  | Rosario Megna (*INFN Bari*)  |
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| 09:50 | Reconstruction of hadronic cascades in large-scale neutrino telescopes  | R Auer (*Erlangen Centre for Astroparticle Physics (ECAP) & Univ. Erlangen*)  |
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| 10:10 | Study of the calibration potential of HELYCON detectors with ANTARES  | Jean-Pierre Ernenwein (*Université de Haute Alsace*)  |
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| 10:30  | coffee break |

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| 10:50 | Application of Kalman filter methods to event filtering and reconstruction for Neutrino Telescopy  | Apostolos Tsirigotis (*Hellenic Open University*)  |
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| 11:10 | Atmospheric MUons from PArametric formulas: a fast GEnerator for neutrino telescopes  | Maurizio Spurio (*Univ. Bologna*)  |
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| 11:30 | KM3NeT: optimization studies for a km3 neutrino detector  | Rosa Coniglione (*INFN-LNS*)  |
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| 11:50 | Study of the angular acceptance of a km3 telescope in the Mediterranean Sea  | Piera Sapienza (*INFN-LNS*)  |
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| 12:10 | MC studies of the KM3NeT physics performance  | Rezo Shanidze (*ECAP/Univ. Erlangen*)  |
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| 12:30 | Software frameworks for KM3NeT  |  Claudio Kopper *(ECAP)/ Univ. Erlangen*)  |
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| 12:50 | First ideas for KM3Net on-shore data storage and distribution  | Maya Stavrianakou (*NOA/NESTOR*)  |
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| 13:10  | lunch break |

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| 14:20 | Predictions of the Diffuse Galactic Neutrino Flux in Light of New Milagro Data  | Andrew Taylor (*MPIK*)  |
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| 14:40 | Prospects for Identifying the Sources of the Galactic Cosmic Rays with IceCube  | Alexander Kappes (*Univ. Wisconsin-Madison*)  |
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| 15:00 | KM3NeT sensitivity to neutrino bursts from galactic  | Rezo Shanidze (*ECAP/Univ. Erlangen*)  |
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| 15:20 | Individual GRB sensitivity of the cubic-kilometre deep-sea neutrino telescope KM3NeT  | Damien Dornic (*CPPM*)  |
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| 08:30*->16:05*    **Parallel session: Engineering for deep deployment neutrino telescopes** (Salle Colbert ) (Convener: Paul Kooijman (*NIKHEF, Utrecht*) , Paolo Piattelli (*INFN LNS, Catania*) )  |
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| 08:30 | Low Power Multi-Dynamics Front End Architecture for the Optical Module of a Neutrino Underwater Telescope  | Domenico Lo Presti (Univ. *Catania*)  |
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| 08:40 | Time over Threshold electronics for an underwater neutrino telescope  | George Bourlis (*Hellenic Open University*)  |
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| 08:50 | The NEMO-Phase2 data acquisition and transmission system  | Gabriele Giovanetti (*INFN LNS*)  |
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| 09:00 | Qualification tests and readout electronics reliability analysis for the deep sea underwater telescope NEMO  | Stefano Russo (*Univ. di Napoli Federico II*)  |
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| 09:10 | Commodity, FPGA based, front end electronics for underwater neutrino telescopes  | Theodoros Athanasopoulos (*NOA / IAF Nestor*)  |
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| 09:20  | short break |

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| 09:30 | Proposal for a reconfigurable on-shore Data Acquisition system for km3 scale underwater Neutrino telescope.  | Anastasios BELIAS (*NOA/NESTOR*)  |
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| 09:45 | KM3NeT: Real-time Opto-electronic Readout System  | Peter Healey (*CIP*)  |
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| 10:05 | Developments for a passive optical node network for deployment in deep sea enabling time synchronous data readout.  | Jelle Hogenbirk (*NIKHEF*)  |
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| 10:20 | Photonic technologies for future Very Large Volume Neutrino Telescopes  | M.J. Van der Hoek (*NIKHEF*)  |
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| 10:30  | break |

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| 10:45 | A low cost redundant store and forward DAQ system for KM3NeT, using copper in the Vertical String  | Peter Jansweijer, P.P.M. (*NIKHEF*)  |
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| 11:00 | A proposal design for data transmission system on copper backbone  | Fabrizio Ameli (*INFN Roma ‘La Sapienza ;*)  |
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| 11:20 | Wet mateable optical connector advancements  | Steven Thumbeck (*SEACON Advance products LLC*)  |
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| 11:40 | The electro-optical cabling system for the NEMO Phase-2 tower  | Antonio D'Amico (*INFN-LNS*)  |
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| 11:55 | KM3NET deep sea wet mateable connector: report of performed tasks and results  | Diego Torazza (*I.N.F.N. Genova*)  |
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| 12:05 | The sector of the Antares line to be deployed in the NEMO site  | Davide Piombo (*INFN. Genova*)  |
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| 12:15 | A comparison of AC and DC power feeding systems based on the NEMO experiences  | Rosanna Cocimano (*INFN - LNS*)  |
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| 12:30  | lunch break |

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| 14:00 | Positioning System of the ANTARES Neutrino Telescope  | Miguel Ardid (*IGIC- Univ. Politècnica de València*)  |
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| 14:15 | Acoustic tomography applied to the Baikal Neutrino Telescope  | O Kebkal (*Evologics GmbH,* *Berlin, Germany*)  |
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| 14:30 | The acoustic positioning system for NEMO Phase 2  | Francesco Simeone (*Univ. "La Sapienza" & INFN,Roma*)  |
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| 14:45 | NURC expertise for Neutrino Telescope  | Alain Maguer (*NURC - Nato Undersea Research Centre*)  |
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| 15:00 | On line monitoring of the power control and engineering parameters systems of the NEMO Phase-2 tower.  | Angelo Orlando (*INFN - LNS*)  |
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| 15:15 | Time calibration and positioning for KM3NeT  | Simona Toscano (*IFIC - Valencia*)  |
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| 15:30 | Time Calibration of the NEMO apparatus  | Marco Circella (*INFN Bari*)  |
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| 15:45 | Calibration from ten to hundreds of meters in an underwater neutrino telescope  | Spyridon Koutsoukos (*NOA / Nestor*)  |
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| 09:00*->16:20*    **Parallel session on Photodetection** (Salle Raimu-B )  (Conveners: Mauro Taiuti (*INFN Genova*) , Sylvain Henry (*CPPM*) )  |
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| 09:00 | Photomultipliers from ET Enterprises Ltd (formerly Electron Tubes Ltd)  | Ronald Stubberfield (*ET Enterprises*)  |
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| 09:30 | Recent Progress in Hamamatsu Large Format PMTs  | Yuji Yoshizawa (*Hamamatsu Photonics*)  |
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| 10:00 | Title: The X-HPD -- A modern Implementation of a SMART Concept  | Christian Joram (*CERN / PH Department*)  |
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| 10:30  | coffe break |

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| 11:00 | Crystal-based hybrid single photon detector development for the KM3NeT cubic kilometre neutrino telescope  | G Hallewell (*CPPM*)  |
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| 11:30 | Hybrid Phototubes in Neutrino Telescope: Experience and Perspectives  | Bayarto Lubsandorzhiev  (*Inst. Nuclear Research*, *RAS*)  |
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| 12:00 | A hybrid photodetector using the TIMEPIX pixel semiconductor for photoelectron detection  | Gisela Anton (ECAP/ Univ.*Erlangen*)  |
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| 12:30  | lunch break |

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| 14:00 | Sensitivity of a multi-photomultiplier optical module for KM3NeT  | Herbert Loehner (*KVI, Univ. Groningen*)  |
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| 14:30 | Instrumentation of A New Direction Sensitive Segmented Optical Module.  | Andrea Bersani (*INFN Genova*)  |
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| 14:45 | Characterization of a prototype of a new multianodic large area photomultiplier  | Emanuele Leonora (*INFN Catania*)  |
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| 15:00 | LED based powerful nanosecond light sources for calibration systems of deep underwater neutrino telescopes  | Bayarto Lubsandorzhiev *. (Inst. Nuclear Research*, *RAS*)  |
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| 15:20 | Distribution of bioluminescence in the Mediterranean Sea and predicted effects on a neutrino telescope  | Jessica Craig (*Oceanlab*  *Univ Aberdeen*)  |
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| 15:50  | coffee break |

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| 16:30  | Visit to ANTARES infrastructures (La Seyne sur Mer)

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| Transfer by boat from Toulon harbour, leaving at 16:30! |

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| **Thursday 24 April 2008** |

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| 09:00*->17:30*    **Plenary Session II** (Salle Colbert )

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| Chairs: Gerard van der Steenhoven (NIKHEF): Morning, John Carr (CPPM): Afternoon  |

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| 09:00 | Commissioning the IceCube neutrino telescope at the South Pole  | Brendan FOX (*Pennsylvania* ***State University***)  |
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| 09:30 | The prototype string for the km3 scale Baikal neutrino telescope  | Vladimir AYNUDTINOV (*Inst. Nuclear Research*, *RAS*)  |
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| 09:50 | Perspectives for High Energy Neutrino Astronomy  | Dmitri SEMIKOZ (*APC Paris*)  |
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| 10:20 | The European Research Fleets  | Vincent RIGAUD (*IFREMER, Centre de Brest, France*)  |
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| 10:50  | Coffee break |

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| 11:10 | Experience in ESONET NoE and Standardisation issues for undersea observatories  | Ingrid PUILLAT (*IFREMER Centre de Brest, France*)  |
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| 11:40 | Communications and Power for undersea Neutrino Telescopes  | Ronan MICHEL (*Alcatel-Lucent Submarine Networks*)  |
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| 12:00 | Underwater matable electro-optical connectors: the feedback from Antares  | Pascal VERNIN (*CEA Saclay, Paris*)  |
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| 12:20  | lunch break |

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| 14:00 | Deep Sea Acoustic Neutrino Detection and the AMADEUS System as a multi-purpose acoustic array  | Robert LAHMANN (*Univ. Erlangen*)  |
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| 14:20 | Biological Sonar and Noise Pollution  | Michel ANDRE (*Laboratori d'Aplicacions Bioacústiques* *(LAB), Universitat Politècnica de Catalunya (UPC)*)  |
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| 14:50 | Coincidences between Gravitational Wave Interferometers and High Energy Neutrino Telescopes  | Thierry Pradier (*IPHC Strasbourg*)  |
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| 15:20 | Alert systems for Gamma Ray Bursts  | Stephane BASA (*LAM Marseille*)  |
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| 15:50  | Coffee break |

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| 16:10 | Development of Telescopes for Extremely Energetic Neutrinos  | Steve BARWICK (*UC Irvine*)  |
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| 16:40 | Conference Summary  | Emilio MIGNECO (*INFN-LNS Catania*)  |

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| 17:10 | Thank you, farewell and please remember to upload your papers!  | Greg Hallewell (*CPPM*) |

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