

KLOE-2 Workshop on e^+e^- collision physics at 1 GeV

26-28 October 2016

INFN - Laboratori Nazionali di Frascati, Italy

The Workshop will be devoted to a thorough discussion of the KLOE-2 Physics program at DAΦNE, and more in general about topics related to e^+e^- Physics at 1 GeV c.m. energy



- CP and T violation, CPT and QM tests
- Ks decays, eta decays and chiral lagrangians
- Phi decays, light hadron spectroscopy and transition form factors
- $\gamma\gamma$ Physics
- Dark force searches
- Hadronic contribution to muon g-2
- Low energy kaon interactions
- Future machines and new detectors

Organising Committee

Caterina Bloise (LNF)
Eryk Czerwiński (Krakow)
Erika De Lucia (LNF)
Antonio Di Domenico (Roma) - **Chair**
Paolo Gauzzi (Roma)
Simona Giovannella (LNF)
Enrico Graziani (Roma Tre)
Andrzej Kupsc (Uppsala)
Luca Trentadue (Parma)
Graziano Venanzoni (LNF)

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The KLOE-2 data taking campaign started on November 2014 after a major upgrade of the DAΦNE collider and the KLOE detector.

At the moment DAΦNE is steadily delivering luminosity at a rate $> 10 \text{ pb}^{-1}/\text{day}$ and KLOE-2 already collected more than 2.5 fb^{-1} with the aim of a total $L > 5 \text{ fb}^{-1}$ in the next ~ 1.5 years.

This workshop is devoted to a thoroughly discussion and update of the KLOE-2 Physics program at DAΦNE, and more in general about topics related to e^+e^- Physics at 1 GeV c.m energy.

The proceedings of the Conference will be published (detailed information will be provided at the end of the Workshop)

KLOE-2 Physics Workshop

Wednesday, 26 October 2016

Status of DAPHNE 30' Speaker: Catia Milardi (LNF)

Status of the KLOE-2 experiment 20' Speaker: Danilo Domenici (LNF)

Status of the KLOE-2 inner tracker 20' Speaker: Erika De Lucia (LNF)

Status of the KLOE-2 high energy taggers 20' Speaker: Dario Moricciani (ROMA2)

Discrete symmetries tests with neutral mesons 30'

Speaker: Prof. Jose Bernabeu (IFIC & University of Valencia)

Models of CPT violation 30'

Speaker: Prof. Nikolaos Mavromatos (King's College, London)

Quantum mechanics tests with neutral mesons 30' Speaker: Dr. Beatrix Hiesmayr (University of Vienna)

Overview of KLOE results on kaon physics and KLOE-2 perspectives 30' Speaker: Dr. Eryk Czerwiński (Jagiellonian University)

Discrete symmetries and possible decoherence in k-deformed Poincare algebra 30' Speaker: Michele Arzano (ROMA1)

Quantum gravity phenomenology for multiparticle and entangled states 30' Speaker: Giovanni Amelino Camelia (ROMA1)

Search for the dark boson at KLOE and perspectives for KLOE-2 30' Speaker: Enrico Graziani (ROMA3)

Status of the PADME experiment at LNF 30' Speaker: Paola Gianotti (LNF)

Review on B boson theory 30' Speaker: Dr. Sean Tulin (York University)

Review on dark forces 30'

Speaker: Dr. Natalia Toro (Stanford University)

KLOE-2 Physics Workshop

Thursday, 27 October 2016

Kaon decays for KLOE-2 30' Speaker: Dr. Giancarlo D'Ambrosio (NA)

Flavor physics and kaons 30' Speaker: Guido Martinelli (ROMA1)

KLOE results on hadron physics and perspectives for KLOE-2 30' Speaker: Simona Giovannella (LNF)

Towards a dispersive determination of the eta and eta' transition form factors 30' Speaker: Prof. Bastian Kubis (University of Bonn)

Towards a dispersive determination of the pion transition form factor 30' Speaker: Stefan Leupold (Uppsala University)

Dispersion relations for hadronic light-by-light scattering and the muon g-2 30' Speaker: Dr. Massimiliano Procura (University of Vienna and CERN)

Recent studies on the eta->3pi decay 30' Speaker: Emilie Passemar (Indiana University/JLab)

Recent results and plans for light meson decays at BESIII 30' Speaker: Shuangshi Fang (Institute of High Energy Physics)

Recent studies on eta->3pi decay and/or pi0 form factor 30' Speaker: Karol Kampf (Charles University)

A2 experiment results on omega/eta/eta' 30' Speaker: Patrik Adlarson (Johannes Gutenberg Universität)

Review of e+e-->pi+pi-eta 30' Speaker: Dr. Olga Shekhovtsova (IFJ PAN)

The gamma gamma Physics Program at BESIII 30'

Speaker: Dr. Christoph Florian Redmer (Institute for Nuclear Physics, Johannes Gutenberg - University Mainz)

Latest studies of the reaction e+ e- -> K+ K- gamma 30' Speaker: Leonard Lesniak

Recent results on Phi decays with the CMD-3 experiment 30' Speaker: Mr. Vyacheslav Ivanov (Budker Institute of Nuclear Physics)

Low-energy antikaon-nuclei interactions studies by AMADEUS: from QCD with strangeness to neutron stars 30' Speaker: Dr. Catalina Oana Curceanu (LNF)

KLOE-2 Physics Workshop

Friday, 28 October 2016

KLOE results and perspectives for KLOE-2: running of alpha e.m., hadronic cross section etc. 30'

Speaker: Graziano Venanzoni (LNF)

Review of g-2 theory 30'

Speaker: Dr. Marc Knecht (CNRS/CPT Marseille)

g-2 theory: the hadronic part 30'

Speaker: Prof. Fred Jegerlehner (DESY Zeuthen)

Hadronic contribution to g-2: update from experiment 30' Speaker: Dr. Simon Eidelman (Budker Institute of Nuclear Physics)

Overview of e+e- physics outside phi 30' Speaker: Achim Denig (Karlsruhe / Mainz)

Proposal to measure the hadronic contribution to muon g-2 in the space-like region 30' Speaker: Luca Trentadue (PR)

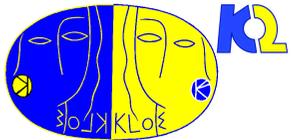
Axion-like contribution to g-2 30'

Speaker: Paride Paradisi (University of Padova and INFN)

Search for C-even state eta-prime(958) production in e+e- collision 30' Speaker: Evgeny Solodov

Preliminary technical considerations on running DAFNE out of phi peak 30' Speaker: Catia Milardi (LNF)

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