



INFN - LABORATORI NAZIONALI DI FRASCATI

LNF-94/033 (IR)

17 giugno 1994

A discussion of
Physics at the Frascati
 Φ -Factory

CP , CPT measurements
Kaon decays
Quantum mechanics
 χ -PT theory
VMD, N-J-L models
Radiative Φ -decays
Two photon physics
K-N scattering
Hypernuclear physics

II EURODAΦNE Collaboration Meeting

Frascati, 19-22 April, 1994

Conveners:

L. Maiani
G. Pancheri
N. Paver

Partly supported by EEC
Human Capital and Mobility
Programme

Secretariat:
M.C. D'Amato

Graphics editing by G. Nicoletti, G. Di Giovanni

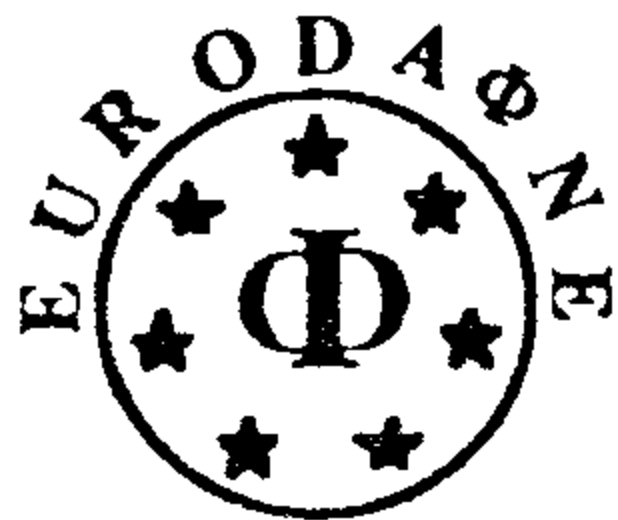


INFN – LABORATORI NAZIONALI DI FRASCATI

LNF-94/033 (IR)
17 Giugno 1994

EURODAΦNE
Collaboration Meeting
April 19–22, 1994

Servizio Documentazione
dei Laboratori Nazionali di Frascati
P.O. Box 13, I-00044 Frascati (Italy)



EURODAΦNE Collaboration Meeting

Frascati, April 19-22 1994 - Aula Alte Energie

PROGRAM

Tuesday 19th April

8:45:-09:15 Shuttle leaves Hotel Bellavista and Hotel Flora

09:30-10:00 Registration at Aula Alte Energie-LNF

Morning Session : **CP Violation at DAΦNE, theory ed experiment**

10:00-10:15 L. Maiani Welcome address

10:15-11:00 H. Lipkin CP Violation for Pedestrians

Coffee Break

11:30-12:15 M. Preger Status of the DAΦNE Machine Project

12:15-13:00 J. Lee-Franzini Status of the KLOE Experiment

Lunch Interval

Afternoon Session : **CP and CPT Violation**

14:30-15:00 A. Pugliese Measurement of CP and CPT Violation at DAΦNE

15:00-15:30 Y. Srivastava On Two-time formulae for CP-Violation Decays

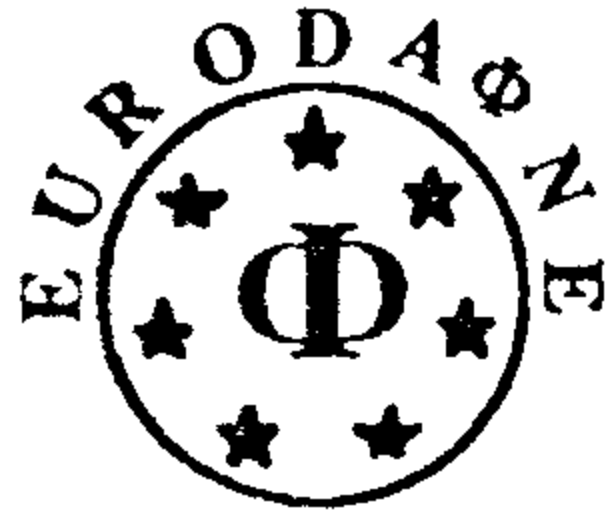
15:30-16:00 M. Ciuchini ϵ'/ϵ : A Theoretical Reappraisal

Coffee Break

16:30-17:00 P. Eberhard Tests of Quantum Mechanics at a ϕ -factory

17:00-17:30 N. Mavromatos Violations of Quantum Mechanics and CPT from Planckian Scale Physics at DAΦNE

17:30-18:00 L. Khalfin CP-violation and CPT-invariance Tests beyond Standard Lee-Ohme-Yang Theory



EURODAΦNE Collaboration Meeting

Wednesday 20th April

08:45-09:15 Shuttle leaves Hotel Bellavista and Hotel Flora

Morning Session : **K-Decays and Chiral Perturbation Theory**

09:30-10:00	J. Gasser	Topics in Semileptonic Kaon Decays
10:00-10:30	G. Ecker	Status Report on Radiative K-Decays
10:30-11:00	J. Stern	Generalized Chiral Perturbation Theory

Coffee Break

11:30-11:50	Paula Franzini	Measuring K_{14} Parameters with KLOE
11:50-12:10	G. Colangelo	Theoretical Uncertainties in the Measurement of π - π Phase Shifts in K_{14} Decays
12:10-12:30	M. Knecht	K_{14} Form-factors in Generalized CHPT to One Loop
12:30-13:00	E. Shabalin	CPT Violating Parameters from Semileptonic K-decays

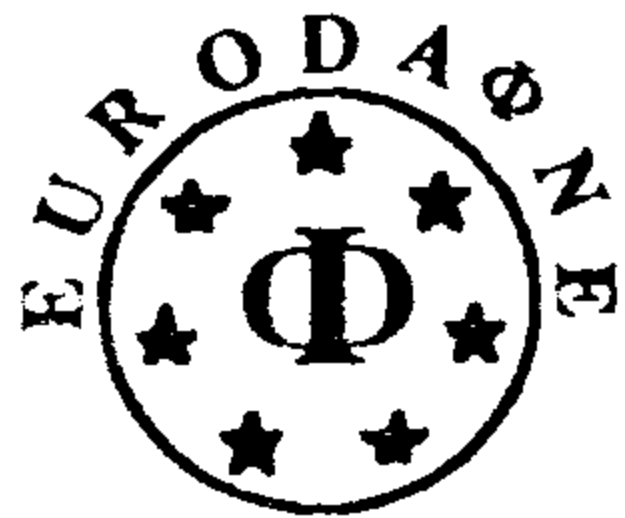
Lunch Interval

Afternoon Session : **Nuclear and Hypernuclear Physics**

14:30-15:15	H. Feshbach	Unitary Symmetry in Baryon-Baryon Scattering
15:15-15:45	A. Molinari	Parity Violation in Electron Scattering at with the DAΦNE injector
15:45-16:15	T. Bressani	The FINUDA Experiment

Coffee Break

16:30-17:00	P. Volkovitsky	On possible measurements of radiative decays of $\Lambda(1405)$ in K-d interactions
17:00-18:00	H. Feshbach	Discussion on hypernuclear physics



EURODAΦNE Collaboration Meeting

Thursday 21st April

08:45-9:15 Shuttle leaves Hotel Bellavista and Hotel Flora

Morning Session : **One and two Photon Physics**

09:30-10:00	E. de Rafael	Hadronic Contributions to $g-2$ of the Muon
10:00-10:30	J. Bijnens	Two and Three Point Functions in ENJL-Models
10:30-11:00	F. Close	Scalar Mesons in and out of Gribov's theory

Coffee Break

11:30-12:00	M. Pennington	Can we Learn about π - π Scattering at DAΦNE ?
12:00-12:30	S. Bellucci	Two-loop Chiral Perturbation Theory Predictions for γ - γ into two pions
12:30-13:00	A. Zallo	Feasibility of two photon physics at DAΦNE

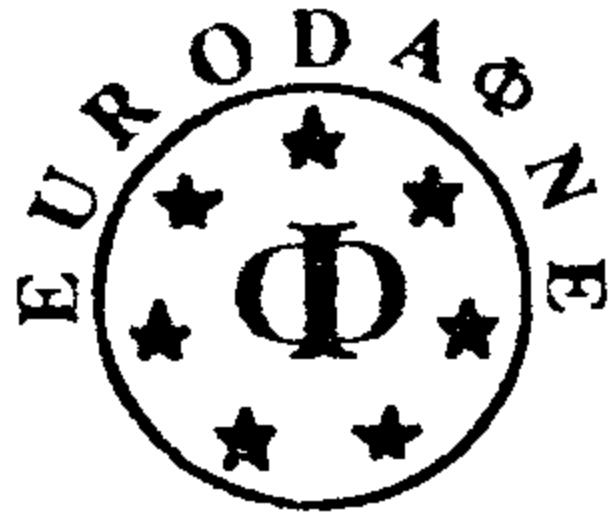
Lunch Interval

Afternoon Session : **Scalar and Vector Mesons physics**

14:30-15:00	L. Montanet	Problems of light meson spectroscopy and the potential of a ϕ -factory
15:00-15:30	A. Bramon	Vector Mesons and Chiral Lagrangians
15:30-16:00	N. Achasov	A study of the OZI rule violation and the combined OZI rule and g -parity violation in ϕ -decays

Coffee Break

16:30-16:50	J. Portoles	Can the pion polarizabilities be reliably predicted?
16:50-17:20	E. Pallante	Quark-Resonance Model and $g-2$ of the Muon
17:20-17:40	M. Finkemeier	Radiative Corrections to K_{12} Decays
17:40-18:00	G. Montagna	Radiative Bhabha Scattering and Large Angle Processes at DAΦNE



EURODAΦNE Collaboration Meeting

Friday 22nd April

08:45-09:15 Shuttle leaves Hotel Bellavista and Hotel Flora

On Friday there will be a DISCUSSION between the members of the EURODAΦNE Collaboration and the former authors of the DAΦNE Physics Handbook. The discussion will define the final time table and the precise responsibilities for writing the various chapters of the report and will end at 13:00. The schedule for the morning follows.

09:30-11:00 Working Group Parallel sessions

Coffee break

11:30-13:00 EURODAΦNE Plenary Session and Discussion

Lunch Interval

In the afternoon there will be a meeting of the EURODAΦNE Executive Committee. The Meeting will end not later than 5 p.m.

TABLE of CONTENTS

	Pag.
H. Lipkin	
CP Violation for Pedestrians	1
M. Preger	
Status of the DAΦNE Machine Project	33
J. Lee-Franzini	
Status of the KLOE Experiment	65
A. Pugliese	
Measurement of CP and CPT Violation at DAΦNE	115
Y. N. Srivastava	
On Two-time formulae for CP-Violation Decays	141
M. Ciuchini	
ϵ'/ϵ : A Theoretical Reappraisal	165
P. Eberhard	
Tests of Quantum Mechanics at a ϕ -factory	185
N. Mavromatos	
Violations of Quantum Mechanics and CPT from Planckian Scale Physics at DAΦNE	201
L. Khalfin	
CP-violation and CPT-invariance Tests beyond Standard Lee-Ohme-Yang Theory	249
J. Gasser	
Topics in Semileptonic Kaon Decays	269
G. Ecker	
Status Report on Radiative K-Decays	293
J. Stern	
Generalized Chiral Perturbation Theory	307
Paula Franzini	
Measuring K_{14} Parameters with KLOE	325
G. Colangelo	
Theoretical Uncertainties in the Measurement of π - π Phase Shift in K_{14} Decays	339
M. Knecht	
K_{14} Form-factors in Generalized CHPT to One Loop	351
E. Shabalin	
CPT Violating Parameters from Semileptonic K-decays	369
H. Feshbach	
Unitary Symmetry in Baryon-Baryon Scattering	377
T. Bressani	
The FINUDA Experiment	395

P. Volkovitsky	
On possible measurements of radiative decays of $\Lambda(1405)$	
in K-d interactions.....	417
E. de Rafael	
Hadronic Contributions to g-2 of the Muon.....	427
J. Bijnens	
Two and Three Point Functions in ENJL-Models	449
F. Close	
Scalar Mesons in and out of Gribov's theory	463
M. Pennington	
Can we Learn about π - π Scattering at DAΦNE ?.....	483
S. Bellucci	
Two-loop Chiral Perturbation Theory Predictions for γ - γ into two pions	527
A. Zallo	
Feasibility of two photon physics at DAΦNE	549
L. Montanet	
Problems of light meson spectroscopy and the potential of a ϕ -factory	573
A. Bramon	
Vector Mesons and Chiral Lagrangians.....	617
N. Achasov	
A study of the OZI rule violation and the combined OZI rule and	
g-parity violation in ϕ -decays	627
J. Portoles	
Can the pion polarizabilities be reliably predicted?.....	659
E. Pallante	
Quark-Resonance Model and g-2 of the Muon.....	675
M. Finkemeier	
Radiative Corrections to K_{12} Decays	689
G. Montagna	
Radiative Bhabha Scattering and Large Angle Processes at DAΦNE	705
A. Molinari	
Parity Violation in Electron Scattering at with the DAΦNE injector.....	725