

Contents

Part I Thursday

Status of the Cabibbo-Kobayashi-Maskawa Quark-Mixing Matrix

B. Renk 3

Superallowed $0^+ \rightarrow 0^+$ Beta Decay: Current Status and Future Prospects

J.C. Hardy, I.S. Towner 11

New Analysis of Neutron β -Decay (Radiative Corrections) and Implications for CKM Unitarity

W.J. Marciano 17

An Overview of Neutron Decay

J. Byrne 21

Neutron Lifetime Value Measured by Storing Ultra-Cold Neutrons with Detection of Inelastically Scattered Neutrons

*S. Arzumanov, L. Bondarenko, W. Drexel, A. Fomin, P. Geltenbort,
V. Morozov, Yu. Panin, J. Pendlebury, K. Schreckenbach* 35

Is the Unitarity of the Quark-Mixing CKM Matrix Violated in Neutron β -Decay?

H. Abele 43

CKM Unitarity and $|V_{cs}|$ from W Decays

E. Barberio 51

PIBETA: A Precise Measurement of the Pion Beta Decay Rate

D. Počanić, for the PIBETA Collaboration 59

Semileptonic Kaon and Hyperon Decays: What Do They Tell Us about V_{us} ?

H.-W. Siebert 67

Project of a New Measurement of the Electron-Antineutrino- Correlation a Coefficient in Neutron Beta Decay

B.G. Yerozolimsky 73

The Neutron Decay Spectrometer *a*SPECT

*S. Baeßler, S. Bago, J. Byrne, F. Glück, J. Hartmann, W. Heil,
I. Konorov, G. Petzoldt, Y. Sobolev, M. van der Grinten, O. Zimmer* 81

Neutron Decay Correlation Measurements in Pulsed Beams

D. Dubbers 87

TRI μ P – a New Facility for Trapping Radioactive Isotopes

K. Jungmann 91

**Progress Towards Measurement of the Neutron Lifetime Using
Magnetically Trapped Ultracold Neutrons**

*P. R. Huffman, K. J. Coakley, S. N. Dzhosyuk, R. Golub, E. Korobkina,
S. K. Lamoreaux, C. E. H. Mattoni, D. N. McKinsey, A. K. Thompson,
G. L. Yang, L. Yang, J. M. Doyle* 97

Measurement of the Neutron Lifetime

by Counting Trapped Protons

*F. E. Wietfeldt, M. S. Dewey, D. M. Gilliam, J. S. Nico, X. Fei,
W. M. Snow, G. L. Greene, J. Pauwels, Eykens, A. Lamberty,
J. Van Gestel* 107

A Magnetic Trap for Neutron-Lifetime Measurements

*F.J. Hartmann for the UCN-group: I. Altarev, A. Frei, F.J. Hartmann,
S. Paul, G. Petzoldt, R. Picker, W. Schott, D. Tortorella, U. Trinks,
O. Zimmer* 115

Towards a Perfectly Polarized Neutron Beam

*A. Petoukhov, T. Soldner, V. Nesvizhevsky, M. Kreuz, M. Dehn,
M. Brehm* 123

Part II Friday

**Order- α Radiative Corrections to Neutron, Pion and Allowed
Nuclear β -Decays**

F. Glück 131

Beyond V_{ud} in Neutron Decay

S. Gardner 143

**Radiative Corrections to the Neutron β -Decay Within the
Standard Model and Their Role for Precision Tests of the
CKM-Unitarity**

G. G. Bunatian 151

**Breaking of Isospin Symmetry in Nuclei
and Cabibbo-Kobayashi-Maskawa Unitarity**

H. Sagawa 161

g_A on the Lattice

*M. Göckeler, R. Horsley, D. Pleiter, P.E.L. Rakow, A. Schäfer,
G. Schierholz* 169

**CLEO-c and CESR-c: Allowing Quark Flavor Physics
to Reach Its Full Potential**

I. Shipsey 175

Perspectives on Measuring V_{us} at KLOE

The KLOE Collaboration presented by E. De Lucia 189

An Ultracold Neutron Facility at PSI

M. Daum 195

**Three-fold Correlation in the Interaction of Polarized Neutrons
with Polarized Nuclei and the Method of Oscillating Fields**

A.V.Aldushchenkov, A.I.Kovalev, V.V.Lukashevich 199

**Trine – A New Limit on Time Reversal Invariance Violation in
Neutron β -Decay**

T. Soldner, L. Beck, C. Plonka, K. Schreckenbach, O. Zimmer 205

**Search for Time Reversal Violating Effects,
R- and N-Correlations in the Decay of Free Neutrons**

*K. Bodek, G. Ban, M. Beck, A. Biatek, T. Bryś, A. Czarnecki,
W. Fetscher, P. Gorel, K. Kirch, St. Kistryn, A. Kozela, A. Lindroth,
O. Naviliat-Cuncic, J. Pulut, A. Serebrov, N. Severijns, E. Stephan,
J. Zejma* 215

**The Measurement of Neutron Decay Parameters
with the Spectrometer PERKEO II**

M.B. Kreuz 225

Summary Talk

N. Severijns 231

List of Participants 235