

Short Minutes of the BVR 35

Meetings of February 12 – 13, 2004

1 Meetings of the Committee

closed meetings: Thursday, February 12, from 9:00 – 12:35

Friday, February 13, from 9:00 – 11:45

present: A. Blondel

P. Cenci

C. Hoffman (chair)

S. Paul

J. M. Pendlebury

R. Rosenfelder (secretary)

G. Wagner

D. Wyler

excused: D. Bryman, L. Tauscher

local consultant: C. Petitjean

external consultant: D. Schinzel

from the “Forschungskommission”: H. R. Ott (on Friday)

ex officio: R. Eichler

2 New Proposal

2.1 R-04-01.1: Study of the $\pi^+ \rightarrow e^+\nu\gamma$ decay anomaly (D. Pocanic, E. Frlz, D. Mzavia *et al.*)

Recommendation:

The Committee is intrigued by the anomaly observed in radiative pion decay and considers the issue worthwhile for a dedicated investigation. Encouraged by the proven abilities of the detector and the achievements of the group it fully recommends the requested beam time.

3 New Letter of Intent

3.1 R-04-02.0: Measurement of the UCN production efficiency of solid D_2 and comparison with the solid cryogenic materials CD_4 and O_2 (K. Kirch *et al.*)

The Committee acknowledges the receipt of the LOI and looks forward to a full proposal. Research by the group to provide better understanding of possible UCN materials and strengthen their role in the international neutron community is supported.

4 Progress Reports and Beam Requests

The Committee received 8 Progress Reports most of which were presented orally in the Thursday afternoon session. They describe many challenging experiments which either are already taking data or coming closer to their goal.

R-96-04: Search for Time Reversal Violating Effects in the Decay of Free Neutrons (K. Bodek *et al.*)

The Committee notes ongoing work and progress and looks forward to a measurement of the time-reversal-violating amplitude with a precision of 0.01 or better.

R-97-05: Precision Measurement of Singlet μp Capture in Hydrogen (P. Kammel, C. Petitjean *et al.*)

The Committee notes real progress in the last year and the achievement of an impressive, working detector. It is fully supportive of the ongoing efforts.

R-98-01: Measurement of the Strong Interaction Width and Shift on the Ground State of Pionic Hydrogen (D. Gotta *et al.*)

The group has presented clear indications that the previous measurements of the width are not correct and demonstrated real progress. However, there is a possible conflict with the $\mu e \gamma$ (MEG) experiment for beam time in the $\pi E5$ channel. While we hope that further measurements by R-98-01 are forthcoming, it is the clear opinion of the Committee that the MEG experiment should have priority and not be delayed.

R-99-06: Precision Measurement of the μ^+ Lifetime (G_F) With the FAST Detector (J. Kirkby, M. Pohl *et al.*)

This experiment seems to be in great shape and it is very encouraging to see real data. We hope that data obtained in 2004 will provide an improved measurement of the muon lifetime.

R-99-07: A Precision Measurement of the Positive Muon Lifetime Using a Pulsed Muon Beam and the μ Lan Detector (D. Hertzog, R. Carey *et al.*)

There are problems with the kicker which is crucial for this experiment. This may delay the start of data taking until 2005. However, the principle of the measurement method has been validated and the Committee is impressed by the use of “magic” materials which suppress the μ SR effects.

R-02-02: Partial Muon Capture rates for Double Beta Decay (V. Egorov *et al.*)

Data have been taken but the Committee is somewhat split about the impact of this experiment on nuclear structure calculations for 2β decays. We look forward to further data, which may resolve this issue.

R-99-05: Search for $\mu^+ \rightarrow e^+\gamma$ down to 10^{-14} branching ratio (T. Mori, A. Baldini *et al.*)

The Committee is very encouraged by the progress of this experiment and has the distinct impression that the collaboration works as a team. A discussion of the remaining technical issues will be presented in the separate written report of the special Technical Review Committee.

R-00-03: The Ultra Cold Neutron facility (UCN) (M. Daum *et al.*)

The Committee is very impressed by the progress in the infrastructure for the UCN facility.

R-00-05: A New Precision Measurement of the Neutron EDM (A. Serebrov *et al.*)

Following suggestions from the Special Review Committee, this Committee endorses the idea that a written “constitution” is needed for large collaborations and suggests that the nEDM create one for themselves. However, the Committee understands that each collaboration has to tailor such guidelines for their specific purposes. It also is convinced that the TDR is not yet finished and needs more work.

The status of the MEG and nEDM experiments were presented in more detail during a full-day session on Wednesday (February 11, 2004). See the special reports by the Technical Review Committee for MEG (A. Blondel, P. Cenci, C. Hoffman, D. Schinzel) and for nEDM (D. Bryman, S. Paul, M. Pendlebury).

5 Miscellaneous

This was the last meeting for G. Wagner who over many years has served as Committee member. The chairman thanks Gerhard for his valuable contributions and good advice.

6 Next Meeting

The next meeting (BV 36) is scheduled again as a 3-day meeting on Wednesday - Friday, February 9 - 11, 2005.

The special reviews for the MEG and UCN/nEDM experiments are tentatively planned for July 1/2, 2004 with the final dates being fixed by email.

February 25, 2004

C. Hoffman, R. Rosenfelder