



PSI, Villigen
January, 1999

**MINUTES "BESCHLUSSKONFERENZ"
OF THE USERS MEETING BV 28 AT PSI
January 12/13, 1999**

present: Prof. R. Eichler (Chairman)
Dr. K. Gabathuler
Dr. D. Herlach
Dr. Q. Ingram
Dr. E. Morenzoni
Dr. E. Pedroni
Dr. C. Petitjean (secretary)
Dr. R. Rosenfelder
Dr. P.A. Schmelzbach
Dr. E. Steiner
Prof. P. Truöl

excused: Dr. W. Fischer
Dr. G. Goitein
Prof. J.V. Kratz
Prof. K. Maier
Dr. D. Müller
Dr. T. Stambach

1. Approval of Experiments

The recommendations of the BVR research committee, the μ SR research committee and the Philips Cyclotron committee, (see minutes in the appendix) are acknowledged.

As announced during the open sessions, the official approval of experiments in cases where financial or other contributions from PSI beyond normal services are requested, is also subject to a memorandum of understanding signed by all collaborating partners including PSI.

This memorandum must indicate the time-table for the experiment and list for each involved institute:

- sharing of financial contributions by the collaboration partners for the duration of the experiment
- manpower with percentage of involvement for physicists/students/technicians.

Special, beyond normal services requested from PSI must also be mentioned.

New Proposals

- R-98-03.1 Laser spectroscopy of the Lamb Shift in muonic hydrogen
F. Kottmann et al., ETH Zürich, PSI, Fribourg, Munich, Paris, Coimbra, Princeton
Approved, subject to a memorandum of understanding (see introductory remarks), and to a detailed written report on metastability measurement. 11 weeks in π E5 area, first beam period not before 2000
- R-99-01.1 Search for Exotic Muon Decays
R. Bilger et al., Tübingen, Edinburgh
Approved, 4 weeks in μ E4 area
- R-99-02.1 Pion charge exchange on protons at low energies
J. Comfort, R. Meier et al., Tempe, Tübingen, PSI, Edinburgh, Zagreb, MIT, Abilene, Boulder, Jerusalem, Frascati, Mineapolis, Saskatchewan
Approved, subject to a memorandum of understanding see introductory remarks, 9 weeks in π E3 area
- R-99-03.1 To measure yields, angular- and energy-distributions of neutrons following proton-induced spallation on a thick lead/bismuth target at $E_p = 300$ MeV by activation analysis and time-of-flight
M. Goldberg et al., SOREQ Yavne, SCK/CEN Mol, PSI
Accepted as a test for specific applications in view of future neutron spallation sources. A formal agreement for the proper disposal of the activated targets must be reached prior to the first beam time.
2 x 3 weeks (outside the medical beamtime) in NA2 area.

- RA-98-20.1 Magnetic Phase Transitions in the Spin-Ladder Systems CuB_2O_4 and Cu_2LiO_2
(LOI 1998) *B. Roesli, J. Schefer, U. Staub, ETHZ and PSI*
Approved, 4 days GPS and 2 days LTF (shared).
- RA-99-01.1 Magnetic Correlations in One Dimensional Spin Systems
H.-H. Klauss, F.J. Litterst, TU Braunschweig
Approved, 11 days GPS.
- RA-99-02.1 μSR Studies on the Mott-Hubbard System $\text{Ni}(\text{S},\text{Se})_2$
A. Husmann, S. Blundell, Oxford
Approved, 2 days DOLLY.
- RA-99-03.1 Magnetic Properties of Strongly Correlated Electron Systems near a Quantum
Critical Point
G.M. Kalvius, A. Kratzer, TU Muenchen
Approved, 4 days LTF.
- RA-99-04.1 μSR -Magnetic Studies in the Kondo Insulator $\text{Yb}(\text{Lu})\text{B}_{12}$
G.M. Kalvius, A. Kratzer, TU Muenchen
Approved, 3 days GPS and 1 day LTF (shared).
- RA-99-05.1 μSR Investigation of the Spin Dynamics of the Double-Layered Manganite
 $\text{La}_{1.2}\text{Sr}_{1.8}\text{Mn}_2\text{O}_7$
T. Chatterji, Grenoble
Approved, 3 days GPS.
- RA-99-06.1 Zero and Longitudinal Field Relaxation in Low Doping Manganites: Search for
Static and Dynamic Ferromagnetic Clusters
R. De Renzi, G. Allodi, G. Amoretti, G. Guidi, Parma
Approved, 5 days GPS and 2 days LTF (shared).
- RA-99-07.1 μSR on Monodisperse Nano-Scale Pd Clusters at Low Temperatures
P.C.M. Gubbens, C.T. Kaiser, Delft
Approved, 3 days GPS plus 3 days LTF.
- RA-99-08.1 Superparamagnetism and Magnetic Relaxation in Nanoscale Granular Alloys
Q.A. Pankhurst, London, S.F.J. Cox, ISIS
Approved, 2 days DOLLY.
- RA-99-09.1 Structure of the Superconducting Intermediate State near $H = H_C$
V.S. Egorov, RSC Kurchatov Inst. Moscow, G. Solt, PSI
Approved, 2 days LTF.
- RA-99-10.1 Effect of an Applied Current on the Flux Line Lattice of NbSe_2
A. Yaouanc, Grenoble
Approved, 4 days LTF.
- RA-99-11.1 Coexistence of Superconductivity and Ferromagnetism in the New Hybrid
Ruthenate-Cuprate Compound $\text{RuSr}_2\text{GdCu}_2\text{O}_{2+\delta}$
C. Bernhard, MPI Stuttgart, C. Niedermayer, Konstanz
Approved, 7 days GPS.

- RA-99-12.1 μ SR Study of Cation Disorder Effects in A_2CuO_4 Superconductors
K. Prassides, Sussex
 Approved, 4 days GPS.
- RA-99-13.1 μ SR Study of the Effects of Li Substitution in $YBa_2Cu_3O_{6+x}$
P. Mendels, A. MacFarlane, J. Bobroff, Paris-Sud
 Approved, 6 days GPS.
- RA-99-14.1 Novel Electronic Groundstate of Quenched Cubic Cs_1C_{60}
W.A. MacFarlane, Paris-Sud, K. Prassides, Sussex
 Approved, 5 days GPS.
- RA-99-15.1 Heterogeneous Processes of Environmental Free Radicals
C.J. Rhodes, Liverpool, I.D. Reid, PSI
 Approved, 15 days GPD.
- RA-99-16.1 A Search for Non-Markovian μ^+ Diffusion in Solids: 'Kinematic' Simulation
 of μ^+ Spectral Spin Hopping
N. Kaplan, Jerusalem
 Approved, 4 days GPS.

Letter of Intent

The following letter of intent was submitted, see comments in the minutes.

- R-98-04.0 Activation analyses with stopped negative muons to measure potassium
 contamination in the liquid scintillator of the solar neutrino experiment
 Borexino.
G. Heusser et al., MPI Heidelberg.
 Beamtest accepted, 2 days in $\mu E1$ area.

2. Beam Schedules

The ring accelerator will start production in mid March 1999. 40 regular weeks of 600 MeV beam at high intensity (nominal current 1.5 mA) are planned until Christmas 1999. For the beam distribution see the "Betriebsprogramm" Jan. 99 - September 99 including Injector 1 and the 590 MeV Program March - August 1999.

3. Choice of target E length

The question was discussed about reducing the length of the thick meson production target (presently 60mm Carbon), the available option being 42mm Carbon. This would help increasing the neutron fluxes of SINQ by 20 - 25%, while the users of target E would encounter reductions of the maximum available fluxes of 20 - 30%. (An open question still is the influence of the shortening of the target on the production mechanism of surface muons). Good reasons were given pro and contra by both involved communities. In fact, the SINQ community is in need for a more significant rise of neutron fluxes which can be accomplished by installing in the shutdown 2000 a more efficient spallation target (factor 1.6) and by raising the accelerator current from presently 1.5 mA towards 2 mA.

For 1999 the following compromise shall be adopted:

- March 99: start of production with the long 60mm target.
- October 99: short target ready for exchange (to be used in case of target failure)
- End of October 99: exchange of 60 mm by 42mm target.

In the future the choice of target length will be open to management decision, but extra exchanges should for technical and cost reasons not be planned more than once per year.

4. VARIA

The next users meeting BV29 is scheduled for July 6 - 7, 1999, the PC-meeting is expected to take place on June 28, 1999. The deadline for beam requests, new proposals and addenda is **May 28, 1999**.

Appendix:

- Betriebsprogramm Jan. 99 - Sept. 99 (including Injector I)
- PSI 590 MeV Program 1999 I
- Short minutes of the BVR 28-meetings
- Minutes of the BVRA-98-2 μ SR meetings
- μ SR Beam Requests/Allocations 1999
- Minutes of the PC users meeting