



PSI, Villigen
March, 2001

**MINUTES "BESCHLUSSKONFERENZ"
OF THE USERS MEETING BV 32 AT PSI
March 6/7, 2001**

present: Prof. R. Eichler (Chairman)
Dr. W. Fischer
Dr. K. Gabathuler
Dr. D. Herlach
Prof. H. Keller
Dr. C. Petitjean (Secretary)
Dr. R. Rosenfelder
Dr. P.A. Schmelzbach
Dr. L. Simons
Dr. E. Steiner

excused: Dr. G. Goitein
Prof. J.V. Kratz
Prof. P. Truöl

1. Approval of Experiments

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

New Proposals

- RA-01-02.1 Moving vortices in Type II superconductors as probed by positive muons
E. Forgan et al., Birmingham, St. Andrews, Zürich, PSI
Approved, 10 days GPS.
- RA-01-03.1 Study of the vortex matter phases in $\text{YBa}_2\text{Cu}_3\text{O}_{7-\delta}$ crystals
P. Dalmas de Réotier et al., Grenoble, Delft, Michigan, Argonne, PSI
Approved, 2 days GPS.
- RA-01-04.1 Coexistence of Superconductivity and Antiferromagnetism in YbPd_2Sn
B. Roessli et al., PSI, Niigata, CEA
Approved, 2 days LTF.
- RA-01.05.1 μ SR Study of Antiferromagnetic Fullerene Derivatives
K. Prassides et al., Sussex, Cambridge, JAIST
Approved, 2 days GPS.
- RA-01.06.1 μ SR study of the magnetic instability in heavy-fermion $(\text{U,Th})\text{Pt}_3$
M. Graf et al., Boston, Amsterdam, Los Alamos, PSI, ETHZ
Approved, 2 days GPS + LTF (shared).
- RA-01.07.1 High pressure μ SR-study of the heavy fermion compound Ce_7Ni_3
A. Schenck et al., ETHZ, Hiroshima, München, Karlsruhe
Approved, 3 days GPD. Address open questions at ambient pressures first.
- RA-01-08.1 μ SR studies on the magnetic Kondo compounds $\text{CeNi}_{1-x}\text{Cu}_x$
G. Kalvius et al., Garching, Catabria, Petersburg VA, Uppsala
Approved, 2 days GPS + LTF (shared).
- RA-01.09.1 Magnetic and heavy fermion properties of $\text{Li}_{1-x}\text{Zn}_x\text{V}_2\text{O}_4$ by μ SR
G. Kalvius et al., Garching, Petersburg VA, Uppsala, Augsburg
Approved, 3 days GPS including 2 days LTF (shared).
- RA-01-10.1 μ SR-magnetic studies on rare earth dodecaborides RB_{12} (R - Ho, Er, Tm)
G. Kalvius et al., Garching, Petersburg VA, Uppsala, Hiroshima
Approved, 1 day GPS.
- RA-01-11.1 Pressure-Induced Evolution of Magnetism in URu_2Si_2
A. Schenck et al., Sapporo, Osaka, ETHZ, PSI
Approved, 4 days GPD.

- RA-01-12.1 Singlet ground-state and local spin susceptibility in $S=1/2$ quantum antiferromagnet KCuCl_3 and related compounds
N. Cavadini et al., ETHZ, PSI, Bern
Approved, 3 days GPS.
- RA-01-13.1 Interplay between magnetic and transport properties in the layered Co based perovskite $\text{LnBaCo}_2\text{O}_{5+\delta}$ (Ln = Ho, Gd, Dy and Tb)
U. Staub et al., PSI, Grenoble, Caen
Approved, 2 days GPS, 4 days DOLLY.
- RA-01-14.1 Spin-glass-like magnetic dynamics in granular CuCo
G. Kalvius et al., Garching, Petersburg VA, Uppsala, Dresden
Conditional approval (no beam in 2001). Should do AC susceptibility first.
- RA-01-15.1 Spin Fluctuations in Geometrically Frustrated Rare Earth Oxides
J.A. Hodges et al., Gif-sur-Yvette, Grenoble, Delft
Approved, 3 days GPS + LTF (shared).
- RA-01-16.1 Corner sharing triangular geometrically frustrated antiferromagnets
P. Mendels et al., Orsay, Haifa, Gif-sur-Yvette
Approved, 3 days GPS + LTF (shared).
- RA-01-17.1 Magnetic ground-state in $(\text{U-RE})_2\text{TSi}_3$ (T = Ru, Rh, Pd)
A. Amato et al., PSI, Niigata
Approved, 1 day GPS. Wait for U-based samples.
- RA-01-18.1 Investigation of a novel type of magnetism in $\text{Ca}_{0.995}\text{La}_{0.005}\text{B}_6$
H.R. Ott et al., ETHZ, PSI
Approved, 2 days GPS.
- RA-01-19.1 A μSR study of magnetism in polycrystalline $\text{Cu}_{1-x}\text{Mn}_x$ alloys for $0.17 \leq x \leq 0.4$ near the percolation threshold
A.L. Getalov et al., Gatchina, PSI
Conditional approval (6days GPD). Should do AC susceptibility first.
- RA-01-20.1 Muons Spin probe in the Mn_3O_4 in the CdMn_2O_4 spinel systems and in the intermediate compositions, of interest for NO_x sensing
R. De Renzi et al., Parma, Pavia
Approved, 3 days GPS.
- RA-01-21.1 μSR investigation of the magnetorefrigerant $\text{Gd}_5(\text{Ge,Si})_4$
A. de Visser et al., Amsterdam, Delft, ETHZ
Approved, 3 days GPS.
- RA-01-22.1 μSR Studies of Magnetic Ordering in Molecular Materials
H.H. Klaus et al., Braunschweig, Berlin
Approved, 2 days GPS.
- RA-01-23.1 Diffusion of Muons in Metallic Multilayers
H. Luetkens et al., PSI, Braunschweig, ETHZ
Approved, 4 days GPS.

- RA-01-24.1 Muon-Proton self trapping in LaNi_5
T. Blach et al., Brisbane
 Approved, 6 days GPD.
- RA-01-25.1 Assessment of radiation induced damages in materials for nuclear waste storage and/or processing
R. Grynszpan, Gif-sur-Yvette, Arcueil, Thiais, Paris, Belgrad, Zürich
 Approved, 1 day GPS, 4 days GPD. Study pure material first.
- RA-01-26.1 Search for Dynamic Solvent Effects in the H Abstraction from HCOO^- by Mu Atoms in Aqueous Solution
E. Roduner et al., Stuttgart
 Approved, 6 days GPD.
- RA-01-27.1 Muon spectroscopy as a probe of electron conduction in DNA
A. Jayasooriya et al., Norwich
 Approved, 10 days GPD.
- RA-01-28.1 A combined avoided level crossing - radio-frequency resonance method
N. Suleimanov et al., PSI, Kazan
 Approved, 12 days ALC.
- RA-01-29.1 Unconventional magnetic ordering in the 2D metals: $\text{Tb}_2\text{C}_2\text{X}_2$ (X = Br, I)
C. Bernhard et al., Stuttgart
 Approved, 3 days GPS.
- Z-98-03 Liquid solid reactions (LiSoR) under irradiation of structural material for a liquid metal target to be used in the SINQ
R. Kapulla et al., Villigen, Nantes
 Approved, 4x 20 days with lower priority.
- Z-00-03.1 $^2\text{H}(d,\gamma)^4\text{He}$ Radiative Capture
J. Jourdan et al., Basel, St. Petersburg
 Approved, 130 shifts.
- Z-01-01 Activation of stable tracers (ASTra)
M.C. Cantone et al., Milano, Neuherberg
 Approved, 24 shifts
- Z-01-02.1 Double K-shell ionization of Mg and Si induced in collisions with fast carbon and neon ions
M. Kavcic et al., Ljubljana, Fribourg, Grenoble
 Approved, 2x 21 shifts.
- Z-01-03.1 High-resolution study of M-shell hypersatellites in collisions of fast ^4He and ^{16}O ions with heavy atoms
M. Pajek et al., Kielce, Swierk, Fribourg, Torun, Grenoble
 Approved, 2x 24 shifts.

Z-01-04.1 First chemical study of hassium (element 108)
A. Türler et al., Villigen, Bern, Darmstadt, Berkeley, Dubna, Mainz
Approved, 20 days.

Technical Proposals

R-96-04.2 Search for Time Reversal Violating Effects in the Decay of Free Neutrons
K. Bodek et al., Cracow, ETHZ, PSI, Leuven, Katowice, Gatchina, Edmonton, Madison
Approved, subject to a memorandum of understanding, SINQ, Sector 50.

R-97-05.2 Precision Measurement of Singlet μp Capture in a Hydrogen TPC
P. Kammel, C. Petitjean et al., Urbana, PSI, Gatchina, Berkeley, Louvain, Munich, Boston
Approved with high priority, subject to a memorandum of understanding, 16 weeks in area $\mu E4$.

Letters of Intent

RA-01.01.0 Investigation of the anomalous suppression of superconductivity near the magic hole concentration $p = 1/8$ in Co and Zn doped Bi-2212 and Tl-2212
A. Poddar et al., Calcutta, ETHZ, PSI
Letter acknowledged, 1 day DOLLY for feasibility test.

R-01-01.0 The search for two-particle muon decay to electron and goldstone massless boson (familon)
Yu. Scheglov et al., Gatchina, Dubna, Moscow
Letter acknowledged, see remarks in BVR minutes.

2. Target E

A special directorate meeting was held to decide on the conflicting interests of the meson beam and SINQ user communities concerning the length of the production target E:

- The short target (4 cm C, in favour of SINQ) will be operated first, from May 3 till October 23, 2001 (25 weeks).
- The long target (6 cm C, in favour of meson beams) will be operated from October 25 till December 21, 2001 (8 weeks). Correspondingly, the slow μ^+ facility has to move its run cycle from the originally scheduled first 8 weeks to the last 8 weeks of 2001. In 2002, the first 8 weeks of operation will be with a 6 cm long target E.

In the future, decisions about the time allocations of short/long target E must be made earlier, in order to allow efficient scheduling of the research programs.

3. Beam schedules

The ring accelerator will start production at the beginning of May 2001. 33 regular weeks of 590 MeV beam at 1.5 - 1.8 mA are scheduled until Decemer 21, see operation programs in the attachment.

As usual, the schedule will be regularly updated and displayed on the internet (<http://ltp.web.psi.ch/schedule.pdf>).

4. Acknowledgements

Prof. Peter Truöl retired at this meeting as chairman of the BVR. He will leave the committee at the next meeting. Already now we like to thank Peter for his energetic and superb leadership in directing the committee affairs during the last eight years!

Dr. Cyrus Hoffman from Los Alamos National Laboratory who has served this committee with great expertise since 1994, has accepted to take over the BVR chair. We wish him good luck and many exciting meetings to come.

Prof. Alain Blondel from Geneva University and CERN has joined the BVR committee. His willingness to serve as a full member during the coming years is gratefully acknowledged!

At the BVRA 2000, Prof. J.W. Blatter from the ETH Zürich has finished his term in the BVRA committee. We like to thank him very much for all his service and contributions.

We welcome Prof. E.M Forgan from the University of Birmingham and Prof. F.J. Litterst from the TU Braunschweig as new members of the BVRA committee.

5. Varia

The next meeting BV 33 is scheduled for January 8/9, 2002. The **deadline** for beam requests, new proposals and addenda is **November 16, 2001**.

The next meeting BVRA 2002 is foreseen for January 23/25, 2002. The **deadline** for beam requests, new proposals and addenda is **November 22, 2001**.

Because of the end of the Cylcotron operation in 2001, no further PC User's meeting will be held.

Attachments

- PSI 590 MeV Program May – December 2001
- BV32 list of PSI HE experiments
- the recommendations of the scientific committees can be found on the internet:
<http://www.psi.ch/ltp/bvr.html>

PSI 590 MeV Program May – December 2001

Number of week	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	
Date of Monday	30.4	7.5	14.5	21.5	28.5	4.6	11.6	18.6	25.6	2.7	9.7	16.7	23.7	30.7	6.8	13.8	20.8	27.8	3.9	10.9	
590 MeV accelerator, injector II	Lambshift																				
Area	Proposal #	Spokesman	Experiment																		
$\pi M1$		Renker	Detector - Tests																		
	R-99-06	Kirby/Pohl	Fast mu - lifetime																		
	R-00-01	Friedman	(pi-p) total CEX																		
		Daum	Praktikum LFHA																		
		Robmann	Tests KOPIO																		
		Cardini	Tests Gem LHCb																		
	Straumann	Tests Gem LHCb																			
$\pi M3$		Herlach (coord)	RA-Program																		
$\pi E1$	R-89-01	Pocanic	$\pi\beta$ Decay																		
		Gabathuler	pi irradiations (LHC)																		
$\pi E3$	slow mu+ facility	Morenzoni	slow mu+ experiments																		
	RA-program	Herlach (coord)	μ SR	DOLLY																	
	R-99-07	Hertzog	μ lifetime																		
	R-00-01	Friedman	(πp) total CEX																		
	Separator 2																				
$\pi E5$	R-98-01	Gotta	pi Hydrogen																		
	R-98-03	Kottmann	μ H																		
	R-99-05	Mori	$\mu e \gamma$																		
$\mu E1$	RA	RA-program	μ SR																		
$\mu E4$	R-97-03	Egorov	Doppler broadening																		
		Grab	Praktikum ETH																		
	RA	RA-program	μ SR																		
	R-97-05	Kammel/Petitjean	μp Capture																		
	Mulhauser	tests Xenon det.																			
NA2		Hajdas/Zehnder	PIF																		
		Victoria	PIREX																		
NA3		Pedroni-Gottstein	p-Therapy																		
			Special exp./Dosimetry																		
SINQ		Bodiek	Time rev.vid. (n-decay)																		

NA Areas For Details see w weekly program

PSI 590 MeV Program May – December 2001

Number of week	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Date of Monday	10.9	17.9	24.9	1.10	8.10	15.10	22.10	29.10	5.11	12.11	19.11	26.11	3.12	10.12
590 MeV accelerator, Injector II														
Area	Lambshift													
Proposal #	Spokesman	Experiment												
$\pi M1$	Renker	Detector-Tests												
R-99-06	KirbyPohl	Fast mu - lifetime												
R-00-01	Friedman	(pi-p) total CEX												
	Daum	Praktikum LFHA												
	Robmann	Tests KOPIO												
	Cardini	Tests Gem LHCb												
	Straumann	Tests Gem LHCb												
$\pi M3$	Herlach (coord)	RA-Program												
$\pi E1$	Pocanic	$\pi\beta$ Decay												
R-99-01	Gabathuler	pi irradiations (LHC)												
$\pi E3$	Morenzoni	slow mu+ experiments												
RA-program	Herlach (coord)	μ SR												
R-99-07	Hertzog	μ lifetime												
R-00-01	Friedman	($\pi\beta$) total CEX												
Separator 2														
$\pi E5$	Gotta	pi Hydrogen												
R-99-03	Kottmann	μ H												
R-99-05	Mori	μ e γ												
$\mu E1$	RA-program	μ SR												
$\mu E4$	Egorov	Doppler broadening												
R-97-03	Grab	Praktikum ETH												
RA	RA-program	μ SR												
R-97-05	Kammel/Petitjean	μ p Capture												
	Mulhauser	tests Xenon det.												
NA2	Hajdas/Zehnder	PIF												
	Victoria	PIREX												
NA3	Pedroni-Gottein	p-Therapy												
		Special exp./Dosimetry												
SINQ	Boeck	Time rev viol (n-decay)												

NA Areas For Details see weekly program

BV 32 LIST OF PSI HE EXPERIMENTS: BEAM REQUESTS AND ALLOCATIONS 2001 (MAY 3 - DEC. 21, 2001)

03.04.01/VA14/list01

AREA	PROPOSAL	SPOKESPERSONS	EXPERIMENT	BEAM STATUS (1 Week = 5 Real Days) Used Allocation Ref.	BEAMTIME 2001 Request Remarks Allocation
π M1	Praktikum R-99-06 R-00-01 Tests Tests Tests Tests	DAUM, KUEHNE KIRKBY, POHL FRIEDMAN STRAUMANN ROBMANN CARDINI RENKER	Praktikum LFHA μ^+ lifetime with FAST (Test) π^+ p total CEX Tr. GEM, silicon strips (LHC-B) KOPIO Exp. (Tests) Triple GEM (LHC-B) Crystal and other tests	2 W(T) appr. BV30 1 W(T) appr. BV30	3 W Aug/Sept 3 W(T) November 3 W 16 May-6 June 3 W(T) 17 May-5 June 2 W(T) 3-16 May 2 W(T) June-July 14 W(T) (14 W)
π M3	RA-Props.	(HERLACH, Coord.)	μ SR, GPS + LTF	(see BVRA)	60 W 33 W
π E1	R-89-01 Tests	POCANIC GABATHULER	$\pi^+ \rightarrow \pi^0 e^+ \nu_e$ Irradiations with π	63 W appr. BV32	33 W May-Dec. 4 W(T) end of year 2 W
π E3	slow μ^+ R-99-07 R-00-01 R-00-04 RA-Props.	MORENZONI HERTZOG, CAREY FRIEDMANN FOEHL (HERLACH, Coord.)	slow μ^+ facility MULAN Det./Beam Tests π^+ p total CEX DCX on ^{11}B (LEPS) μ SR (ALC-Expts./Dolly)	42 W appr. BV19 - appr. BV29 1 W(T) appr. BV30 appr. BV30 (see BVRA)	8 W(Sep) long target E 8 W + 2 T 2 W(Sep) summer 2 W 3 W 12 Sept.-3 Oct. 3 W 3 W 4-25 July - 14 W (ALC) + 7 W (Dolly) 18 W
π E5	R-98-01 R-98-03 R-99-05	GOTTA KOTTMANN MORI	π Hydrogen Lamb Shift in μ H $\mu \rightarrow e + \gamma$ (tests)	3 W 10W BV27 4 W 11W BV31 2 W Tests appr. BV29	8 W long target E 8 + 4 W 2 W + 2 T/6 W Dec01/March02 4 W 3 W(T) July 3 W
μ E1	RA-Props.	(HERLACH, Coord.)	μ SR	(see BVRA)	29 W W
μ E4	Praktikum R-97-03 R-97-05 RA-Props Tests	GRAB EGOROV KAMMEL/PETITJEAN (HERLACH, Coord.) MULHAUSER	Praktikum Particle Physics ETH Test Doppler Broad. in μ - capture μ p singlet capture μ SR 2 Kev Xenon Detector	14 W(T) appr. BV25 Test appr. BV32 (see BVRA)	2 W 11-25 July 2 W 3 W(T) May 3 W 4 W + 2 W(T) Nov/Dec 6 W (see μ E1 requests) W 1 W(T) July 1 W
NA Areas (split-p beam)	R-89-08 PIREX NA3	ZEHNDER/HAJDAS VICTORIA PEDRONI/MUNKEL	PIF (Proton Irrad. Facility) Materials Science p-Therapy (GANTRY), Dosimetry Special exp. and dosimetry	appr. BV14 appr. FOKO appr. FOKO	70 shifts (in part paras to PIREX) 70s 28-30 WE (in part paras to PIF) 24 WE 4x17.5 h/week + last 4 Saturdays 2-4 WE 4x 17.5 h/week + last 4 Saturdays
SINQ "FUNSPIN"	R-96-04	BODEK	Time reversal viol. in n-decay	appr. BV32	20 W