



PAUL SCHERRER INSTITUT

Department of Particles and Matter
Laboratory for Particle Physics

**LIST OF PARTICLE PHYSICS EXPERIMENTS
at the 590 MeV Proton Accelerator of PSI
October, 2008**

Abbreviations:

- A Approved
- C Conditional Approval
- D Deferred
- T Tests Approved

The number following the letter indicates
the users meeting where the proposal was
discussed.

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R-96-04	STUDY OF FUNDAMENTAL SYMMETRIES WITH POLARIZED COLD NEUTRONS AT SINQ	K. BODEK CRACOW - ETHZ - PSI - LEUVEN - SILESIA – PNPI GATCHINA - ALBERTA - WISCONSIN K. Bodek, St. Kistryn, J. Pulut, J. Zejma. W. Fetscher, C. Hilbes, A. Kozela. K. Kirch. M. Beck, P. Schuurmans, N. Severijns. J. Sromicki, E. Stephan. A. Serebrov. A. Czarnecki. W. Haeberli.
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R-96-04.1 16.05.97	FUNDAMENTAL NEUTRON PHYSICS RESEARCH AT SINQ: SEARCH FOR TIME REVERSAL VIOLATION IN THE DECAY OF FREE POLARIZED NEUTRONS	
	<i>Proposal</i> A 26	
R-96-04.2 02.01.01	<i>Technical Proposal</i> A 32	
R-97-05	HIGH PRECISION MEASUREMENT OF SINGLET μ CAPTURE IN H₂ GAS	C. PETITJEAN, P. KAMMEL PNPI GATCHINA - PSI - BERKELEY - URBANA – LOUVAIN – BOSTON - LEXINGTON V.A. Andreev, D.V. Balin, A.A. Fetisov, V.A. Ganzha, V.I. Jatsoura, A.G. Krivshich, E.M. Maev, O.E. Maev, G.E. Petrov, S. Sadetsky, G.N. Schapkin, G.G. Semenschuk, M. Soroka, A.A. Vorobyov, N.I. Voropaev. P.U. Dick, A. Dijkman, J. Egger, D. Fahrni, A. Hofer, V. Markushin, L. Meier, C. Petitjean, R. Schmidt. T.A. Case, K.M. Crowe, S.J. Freedman, B. Gartner, B. Lauss. D.B. Chitwood, P.T. Debevec, F.E. Gray, D.W. Hertzog, P. Kammel, C.J.G. Onderwater, C.C. Polly. L. Bonnet, J. Deutsch, J. Govaerts, R. Prieels. R.M. Carey. T. Goringe, Y. Jia, S. Tripathi, P. Zolnierczuk.
R-97-05.1 04.12.96	<i>Proposal</i> C 25	
R-97-05.2 02.02.01	<i>Technical Proposal</i> C 32	

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R-98-01	MEASUREMENT OF THE STRONG INTERACTION WIDTH AND SHIFT OF THE GROUND STATE OF PIONIC HYDROGEN	D. GOTTA AARHUS – IOANNINA – ATOMKI - JÜLICH – LEICESTER – NEUCHATEL – PSI - ETHZ – ZÜRICH - UNIV.PIERRE+MARIE CURIE - OeAW G.C. Oades. D.F. Anagnostopoulos. S. Biri. D. Gotta, G. Borchert, M. Hennebach. N. Nelms. J.-P. Egger. P. Hauser, P.-A. Schmelzbach, T. Jensen, Y-W. Liu, L.M. Simons,V.E. Markushin. F. Kottmann. G. Rasche. P. Indelicato, B. Manil. W.H. Breunlich, M. Cargnelli, H. Fuhrmann, M. Giersch, A. Gruber, R. King, J. Marton, H. Zmeskal.
R-98-01.1 16.04.98	<i>Proposal</i> A 27	
R-98-03	LASER SPECTROSCOPY OF THE LAMB SHIFT IN MUONIC HYDROGEN	F. KOTTMANN PSI - ETHZ - FRIBOURG - TU MÜNCHEN - KASTLER BROSSEL - COIMBRA – MPI - GARCHING - PRINCETON - YALE D. Taqqu. F. Kottmann. C. Donche-Gache, O. Huot, P. Knowles, F. Mulhauser, L.A. Schaller. F.J. Hartmann, W. Schott. F. Biraben, F. Nez, P. Indelicato. C.A.N. Conde, J.M.F.dos Santos, J.F.C.A. Veloso. T.W. Hänsch, R. Pohl. P. Rabinowitz. V.W. Hughes, Y.W. Liu..
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R-98.03.1	<i>Proposal</i> A 28	
R-99.05	SEARCH FOR $\mu^+ \rightarrow e^+ \gamma$ DOWN TO 10^{-14} BRANCHING RATIO	T. MORI NOVOSIBIRSK - TOKYO - KEK TSUKUBA - NAGOYA. – WASEDA – PSI - PISA Lev M. Barkov, A.A. Grebenuk, B.I. Khazin V.P. Smakhtin. S. Asai, T. Mashimo, S. Mihara, T. Mori, H. Nishiguchi, S. Orito, W. Ootani, T. Saeki, I. Ueda, S. Yamashita, J. Yashima, K. Yoshimura. T. Haruyama, Y. Kuno, A. Maki, Y. Sugimoto, A. Yamamoto. K. Masuda. T. Doke, J. Kikuchi, H. Okada, S. Suzuki. J. Egger, W.D. Herold, P.R. Kettle, S. Ritt. A. Baldini, C. Bemporad, F. Cei, M. Grassi, D. Nicolo, R. Pazzi, G. Signorelli.
R-99.05.1 28.05.99	<i>Proposal</i> C 29	

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R-99-06	PRECISION MEASUREMENT OF THE μ^+ LIFETIME (G_F) WITH THE FAST DETECTOR	J. KIRKBY, M. POHL BOLOGNA – CERN – GENEVE - PSI NAPLES - NIJMEGEN F.R. Cavallo, F.L. Navarra, A. Perrotta, G.Valenti J. Kirkby, R. Nahnhauser. E. Delmeire, L. Malgeri, M. Pohl, D. Vité. K. Deiters, A. Dijkstra, F. Foroughi, C. Petitjean. D. della Volpe. A. König.
R-99-06.1 28.05.99	<i>Proposal</i> D 29 C 30	
R-99-07	A PRECISION MEASUREMENT OF THE POSITIVE MUON LIFETIME USING A PULSED MUON BEAM AND THE μLAN DETECTOR	R.M. CAREY, D.W. HERTZOG BOSTON – URBANA - MINNESOTA R.M. Carey, W. Earle, M. Hare, E. Hazen, J.P. Miller, O. Rind, B.L. Roberts. P.T. Debevec, E. Gray, D.W. Hertzog, P. Kammel. C.J.G. Onderwater, C.C. Polly, M. Sossong, D.C. Urner, S. Williamson. P. Cushman, I. Kronkvist.
R-99-07.1 28.05.99	<i>Proposal</i> C 29	
R-00-03	PROPOSAL FOR AN ULTRACOLD NEUTRON FACILITY AT PSI	M. DAUM, A. SEREBROV PSI - PNPI GATCHINA - ILL GRENOBLE – CRACOW - VIRGINIA F. Atchison, B. van den Brandt, M. Daum, R. Henneck, G. Heidenreich, P. Hautle, K. Kirch J.A. Konter, S. Mango, H. Obermeier, Ch. Perret, U. Rohrer, H.J. Temnitzer. A. Fomin, S. Ivanov, A. Kharitonov, V. Kuzminov, M. Lasakov, A. Murashkin, V. Mityukhlyayev, I. Potapov, M. Sazhin, A. Serebrov, R. Taldaev, V. Varlamov, A. Vasiliev, A. Zakharov. P. Geltenbort. K. Bodek, S. Kistryn, A. Magiera. D. Pocanic, E. Frlez.
R-00-03.1 26.11.99	<i>Proposal</i> C 30	
R-00-03.3 04.12.01	PROPOSAL TO DEMONSTRATE LONG UCN STORAGE TIMES IN A LARGE-VOLUME Be COATED VESSEL <i>Addendum</i> A 33	M. DAUM, A. SEREBROV PSI - PNPI GATCHINA - ILL GRENOBLE M. Daum, R. Henneck, K. Kirch. A. Egorov, A. Fomin, S. Kalinin, S. Kalcheva, A. Kharitanov, M. Lassakov, I. Potapov, M. Sazhin, A. Serebrov, G. Smelev, R. Taldaev, D. Tytz, V. Varlamov, A. Vassiliev. P. Geltenbort.
R-00-03-4 04.12.01	PROPOSAL FOR AN EARLY DEMONSTRATION OF THE FUNCTIONING OF A FAST KICKER MAGNET FOR THE 590 MeV PROTON BEAM OF THE UCN TARGET <i>Addendum</i> A 33	U. ROHRER PSI M. Daum, D. George, F. Jenni, I. Jirousek, K. Kirch, A.C. Mezger, U. Rohrer, P.A. Schmelzbach

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R-02-02	PARTIAL MUON CAPTURE RATES FOR DOUBLE BETA DECAY	V. EGOROV ORSAY - JINR - LOUVAIN-LA-NEUVE - CAEN - PSI - JYVÄSKYLÄ Ch. Briancon. V. Brudanin, V. Egorov, M. Shirchenko, Yu. Shitov, Ts. Vylov, I. Yutlandov. J. Deutsch, R. Prieels. O. Naviliat. C. Petitjean. M. Kortelainen, J. Suhonen.
R-02-02.1 04.12.01	<i>Proposal</i> A 33	
R-03-01	HIGH-ACCURACY MEASUREMENT OF THE SPIN-DEPENDENT NEUTRON SCATTERING LENGTH OF THE DEUTERON	O. ZIMMER SACLAY - TU MÜNCHEN - PSI H. Glättli. H. Griesshammer, O. Zimmer. B. van den Brandt, P. Hautle, J. Kohlbrecher, J. A. Konter.
R-03-01.1 13.12.02 05.03.03	<i>Proposal</i> C 34 A 34	
R-04-01	STUDY OF THE $\pi^+ \rightarrow e^+ \nu \gamma$ DECAY ANOMALY	D. POCANIC VIRGINIA - PSI - JINR - SWIERK - TBILISI - TEMPE - ZAGREB - CSRT - CERN - ZÜRICH M. Bychkov, E. Frlez, R.C. Minehart, D. Pocanic, L.C. Smith, B.A. Vandevender, Y. Wang. W. Bertl. N.V. Khomoutov, A. Korenchenko, S. Korenchenko, N. Kravchuk, N. Kuchinsky, D. Mzhavia, A. Rohzdestvenski, V. Sidorkin, E. Velitcheva. T. Kozlowski. D. Mzhavia, Z. Tsamalaidze. B.G. Ritschie. M. Korolija, I. Supek,. M. Chizhov. P. Robmann, U. Straumann, P. Trüol, A. van der Schaaf.
R-04-01.1	<i>Proposal</i> A 35	
R-04-02	MEASUREMENT OF THE UCN PRODUCTION EFFICIENCY OF SOLID D₂ AND COMPARISON WITH THE SOLID CRYOGENIC MATERIALS CD₄ AND O₂	K. KIRCH PSI - CRACOW - ETHZ - ZÜRICH - ILL - JINR - PNPI - RCNP - IMEP F. Atchison, B. van den Brandt, T. Brys, M. Daum, P. Fierlinger, P. Hautle, R. Henneck, K. Kirch, J. Kohlbrecher, J.A. Konter, G. Kühne, A. Michels, A. Pichlmaier, A. Wokaun. K. Bodek, M. Kasprzak. T. Brys, A. Wokaun. P. Fierlinger. P. Geltenbort, C. Plonka. Y. Pokotilovski, V. Simkin. A. Serebrov. M. Utsuro. J. Zmeskal.
R-04-02.0 R-04.02.1	<i>Letter of Intent</i> T 35 <i>Proposal</i> A36	

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R-05-01	PRECISE MEASUREMENT OF THE $\pi^+ \rightarrow e^+ \nu$ BRANCHING RATIO	D. POCANIC VIRGINIA – PSI – DUBNA – SWIERK – TBILISI - TEMPE – ZAGREB - ZÜRICH
R-05-01.0	<i>Letter of Intent</i> T 36	M. Bychkov, E. Frlez, R.C. Minehart, D. Pocanic, O.A. Rondon-Aramayo, L.C. Smith, B.A. VanDeVender, Y. Wang.
R-05-01.1	<i>Proposal</i> A 37	W. Bertl. V.A. Baranov, Yu.M. Bystritsky, V.A. Kalinnikov, N.V. Khomutov, A.S. Korenchenko, S.M. Korenchenko, N.P. Kravchuk, N.A. Kuchinsky, D. Mzhavia, A.M. Rozhdestvensky, V.V. Sidorkin, E.P. Velicheva, V.V. Volnykh. T. Kozlowski. M. Mzhavia, Z. Tsamalaidze. B.G. Ritchie. M. Korolija, I. Supek. A. van der Schaaf.
R-05-02	MEASUREMENT OF COLD NEUTRON DEPOLARIZATION IN LIQUID AND SOLID DEUTERIUM	M. SNOW BLOOMINGTON IN - GREENCASTLE IN - LOS ALAMOS – DURHAM NH – PSI - CRACOW
R-05-02.0	<i>Letter of Intent</i> A 36	M. Snow. A. Komives C.-Y. Liu. J. Dawson. .K. Kirch, P. Hautle. K. Bodek, S. Kistryn, J. Zejma.
R-05-03	MEASUREMENT OF THE NEUTRON ELECTRIC DIPOLE MOMENT	K. KIRCH – O. NAVILIAT-CUNCIC PSI – CAEN – CRACOW – DUBNA – FRIBOURG - GRENOBLE
R-05-03.1	<i>Proposal</i> A 36	T. Brys, M. Daum, P. Fierlinger, R. Henneck, S. Heule, M. Kasprzak, K. Kirch, A. Pichlmaier. G. Ban, X. fléchar, M. Labalme, T. Lefort, E. Liénard, O. Naviliat-Cuncic. K. Bodek, S. Kistryn, M. Kuzniak, J. Zejma. D. Mzhavia, B.M. Sabirov. St. Gröger, P. Knowles, A. Weis. C. Plonka, G. Auénéner, D. Rebreyend, U.C. Tsan.
R-06-02	MEASUREMENT OF THE CIRCULAR POLARIZATION OF GAMMAS FROM POLARIZED COLD NEUTRON CAPTURE IN SOLID ORTHODEUTERIUM ON FUNSPIN	A. KOMIVES GREENCASTLE – BLOOMINGTON – PSI - CRACOW – LOS ALAMOS
R-06-02.0	<i>Letter of Intent</i> D 37	A. Komives. M. Snow. B. van den Brandt, P. Hautle, K. Kirch, J.A. Konter, A. Pichlmaier. J. Zejma. S. Penttila, D. Bowman.

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R-08-01	MUON CAPTURE ON THE DEUTERIUM	P. KAMMEL GATCHINA – ILLINOIS – PSI – KENTUCKY - BOSTON – LOUVAIN-LA-NEUVE – DENVER - COLUMBIA
R-08-01.1	Proposal A 39	V.A., Andreev, V.A. Ganzha, P.A. Kravtsov, A.G. Krivschich, E.M. Maev, O.E. Maev, G.E. Petrov, G.N. Schapkin, G.G. Semenchuk, M.A. Soroka, A.A. Vasilyev, A.A. Vorobyov, ;E. Vznuzdaev. D.W. Hertzog, P. Kammel, B. Kiburg, S. Knaack, F. Mulhauser, P. Winter. M. Hildebrandt, C. Petitjean. B. Lauss. T. Gorringer, V. Tischchenko. R.M. Carey, K.R. Lynch. R. Prieels. F.E. Gray. A. Gardestig, K.Kubodera, F. Myhrer.