International Conference on Proton-Emitting Nuclei 2019

National Superconducting Cyclotron Laboratory
Facility for Rare Isotope Beams
3-7 June 2019

PROGRAM

1 Monday, June 3

1.1 June 3, Morning Session (chair: Witek Nazarewicz)

8:30 Registration

8:50 (10) Thomas Glasmacher - Welcome

9:00 (30) M. Pfutzner, (link to pdf) *Two-Proton Radioactivity - Status Report*

9:30 (30) R. J. Charity, (link to pdf) *Single and two-proton emission from states in* $^{11,12}O$ *and* $^{10,11,12}N$

10:00 (15) K. W. Brown, (link to pdf) *Two-Proton decay in the sd-shell*

10:15 (15) S. M. Wang, (link to pdf) *Study of the two-proton radioactivity within the Gamow coupled-channel approach*

10:30 Coffee Break

11:00 (30) B. Blank, (link to pdf) *One- and two-proton emission from ground and excited states*

11:30 (15) Alex Brown, (link to pdf) *Configuration Interaction Calculations for Two-Proton Decay*

11:45 (15) W. R. Plass, (link to pdf) *Multiple-reflection time-of-flight mass spectrometry of neutron-deficient nuclides in the vicinity of* ^{100}Sn *and at the N=82 shell closure*

12:15 Lunch Break

1.2 June 3, Afternoon Session (chair: Bertram Blank)

2:00 (30) I. Mukha, (link t o pdf) *Deep Excursion beyond the Proton Drip Line along Argon and Chlorine Isotope Chains*

2:30 (15) A. A. Ciemny, (l ink to pdf) *Exotic decay modes of light silicon isotopes*

2:45 (15) D. Kostyleva, (link to pdf) *End of nuclear landscape foreseen for light argon and chlorine isotopes*

3:00 Coffee Break

3:30 (30) J. Park, (link t o pdf) *Proton dripline near the doubly magic ^{100}Sn: current status and outlook*

4:00 (30) D. Seweryniak, (link t o pdf) *Recent studies of proton and α emission near ^{100}Sn at ATLAS*

4:30 (15) Y. Xiao, (link t o pdf) *Search for α decay of ^{104}Te with a novel recoil-decay scintillation detector*

4:45 (15) K. Auranen, (link to pdf) *Proton decay of ^{108}I and its significance for the termination of the astrophysical rp-process*

5:30 - 7:30 Welcome reception at NSCL/FRIB

2 Tuesday, June 4

2.1 June 4, Morning Session (chair: Zach Meisel)

9:00 (30) G. V. Rogachev, (l ink to pdf) *Recent studies of proton-rich nuclei using active target at the Cyclotron Institute*

9:30 (15) J. M. Schmitt, (link to pdf) *Probing Spin-Isospin Excitations in Proton-Rich Nuclei via the (p,n) Reaction*

9:45 (15) N. Sokolowska, (link to pdf) *β-delayed proton emission from ^{11}Be*

10:00 (15) J. S. Randhawa, (link to pdf) *Direct observation of exotic decay modes in ^{11}Be and other systems using AT-PC*

10:15 (15) Louis Wagner, (link to pdf) *Proton capture reactions with rare isotope beams for X-ray bursts*

10:30 Coffee Break

11:00 (30) Hans O. U. Fynbo, (link to pdf) *Delayed particle emission from light nuclei*

11:45 (15) J. D. Lantis, (link to pdf) *Charge radii of proton-rich Ca isotopes*

12:00 (15) R. C. Powel, (link to pdf) *Charge Radii of Mirror Nuclei* ^{36}*Ca-*^{36}*S and Neutron Equation of State*

12:15 Lunch Break

2.2 June 4, Afternoon Session (chair: Robert Charity)

2:00 (30) Lidia S. Ferreira, (link to pdf) *Theoretical interpretation of proton radioactivity: current status*

2:30 (30) L. J. Sun, (link to pdf) *Exotic Decays of Extremely Proton-rich Nuclei in sd-shell and Related Topics*

3:00 Coffee Break

3:30 (30) R. Kanungo, (link to pdf) *Probing shell evolution and nuclear force at the proton drip-line*

4:00 (15) R. D. Page, (link to pdf) *Discoveries of new cases of proton emission with sub-microsecond half-lives*

4:15 (15) A. Magilligan, (link t o pdf) *New Isospin-Breaking "USD" Hamiltonians and their Predictions for Proton-Rich Nuclei*

4:30 (15) Tomohiro Oishi, (link to pdf) *Proton emission as a tool to investigate hypernuclei*

4:45 (15) M. A. Alaqeel, (link to pdf) *Decay Spectroscopy of the Proton Rich Isotopes* ^{176,177}*Tl*

5:00 (15) G. Perdikakis, (link to pdf) *Nucleosynthesis via neutrino-p process and experimental efforts on measuring key nuclear reactions*

All attending the tour on Wednesday must wear long pants and closed toed shoes.

3 Wednesday, June 5

3.1 June 5, Morning Session (chair: Hans Fynbo)

9:00 (30) A. Kankainen, (link to pdf) *Studies of proton-rich nuclei in the A ≈ 30 region for nuclear astrophysics*

9:30 (30) G. Lotay, (li nk to pdf) *Spectroscopic Studies for Explosive Nuclear Astrophysics*

10:00 (30) Z. Meisel, (link to pdf) *The Influence of Proton-Rich Nuclei on the Most Neutron-rich Matter in the Universe*

10:30 Coffee Break

11:00 (30) R. Longland, (link to pdf) *Monte Carlo Reaction Rate Uncertainties*

11:30 (15) T. Poxon-Pearson, (link to p df) *Transfer Reactions as a Probe for Astrophysical Proton Capture*

11:45 (15) K. A. Chipps, (link to pdf) *Proton Decay of the 6.15 MeV Level in* ^{18}Ne

12:00 (15) Ushasi Datta, (link to pdf) *Study of exotic decay of the nuclei around proton drip line at A ≈ 115*

12:15 Lunch Break

12:30 Lunch meeting for the International Advisory Committee in room 1309

3.2 June 5, Afternoon Session (chair: Grigory Rogachev)

2:00 (30) R. B. Wiringa, (link to pdf) *Charge-Independence Breaking in Light Nuclei*

2:30 (30) Wojciech Satula, (link to pdf) *Charge-dependent DFT for N ≈ Z nuclei*

3:00 (15) N. A. Smirnova, (link to pdf) *Isospin-symmetry breaking correction to Fermi* 0^+ *->* 0^+ *β-decay*

3:15 Group Picture and Coffee Break

3:30 - 5:00 FRIB tour and Poster Session: **all attending the tour must wear long pants and closed toed shoes**.

3.3 Posters

S. Burcher, K. A. Chipps, et. al., *Proton and Gamma Partial Widths for the Astrophysical* $^{30}P(p,\gamma)^{31}S$ *Reaction*

M. Vilen, A. Kankainen, et al., *High-precision mass measurements and production of neutron-deficient isotopes*

W. R. Plass et al., *Measurement of half-lives and decay branching ratios of exotic nuclei with the FRS Ion Catcher*

Alex Brown, *Web Chart*

Ivan Mukha and Daria Kostyleva, *Towards the limits of existence of nuclear structure - excursion beyond the proton dripline*

Natalia Sokolowska, *Searching for beta-delayed protons from* ^{11}Be

4 Thursday, June 6

4.1 June 6, Morning Session (chair: Lidia Ferreira)

9:00 (30) W. Nazarewicz, (link to pdf) *Quantified nuclear density functional theory*

9:30 (30) D. T. Joss, (l ink to pdf) *Shapes, Structures and Radioactive Decay Modes in Heavy Proton-Unbound Nuclei*

10:00 (30) C. Wrede, (link to pdf) *Studies of explosive nucleosynthesis using* β^+ *decay experiments*

10:30 Coffee Break

11:00 (30) H. Suzuki, (lin k to pdf) *Discovery of* ^{72}Rb *and recent proton-rich RI-beam production at RIBF*

11:30 (15) D. E. M. Hoff, (lin k to pdf) *^{73}Sr β-delayed proton emission and the structure of ^{73}Rb*

11:45 (15) M. Friedman, (link to pdf) *Low-Background Measurement of Low-Energy ^{23}Al β-delayed Protons as a Probe for ^{22}Na Destruction Rates in Novae*

12:00 (15) T. Budner, (li nk to pdf) *Constraining $^{30}P(p,g)^{31}S$ to understand nova nucleosynthesis by measuring β-delayed protons*

12:15 Lunch Break

2:00 Meet at NSCL/FRIB Eastside at the turnaround on Bogue St. (at the front of Wharton Center and East of FRIB) for a bus ride to the Frederik Meijer Gardens and Sculpture Park in Grand Rapids.

6:30 Conference dinner Frederik Meijer Gardens Foundation room.

8:00 Michael Thoennessen, (link to pdf) *Stories about Elements, Isotopes and Nuclides*

10:00 Return to MSU

5 Friday, June 7

5.1 June 7, Morning Session (chair: Dean Lee)

9:00 (30) P. Arumugam, (link to pdf) *Triaxiality and residual neutron-proton interaction in proton emitters*

9:30 (15) H. Tann, (link to p df) *JUROGAM 3 at MARA- studying proton-rich nuclei by employing in-beam spectroscopy*

9:45 (15) B. Longfellow, (link to pdf) *Spectroscopy and lifetime measurements near the proton drip line: $^{26,27,28}P$*

10:00 (15) Mandeep Kaur, (link to pdf) *Investigating N/Z effects in the decay of compound nuclei with mass A = 60*

10:15 (15) V. Araujo-Escalona, (link to pdf) *WISArD: Weak Interaction Studies with ^{32}Ar Decay*

10:30 Coffee Break

11:00 (15) C. J. Appleton, (lin k to pdf) *Advanced Implantation Detector Array (AIDA) for decay measurements of exotic nuclei*

11:15 (30) M. Pfutzner, *PROCON 2023 in Warsaw*

11:35 End of the Conference