

Biographical sketch of Chiara Nociforo

Full name: Dr, Chiara Nociforo
Date of birth: March 17, 1972
Nationality : Italian
Address: GSI Helmholtzzentrum für Schwerionenforschung GmbH,
Planckstr. 1 D-64291 Darmstadt, Germany
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Education & Training

- Diploma di Laurea in Fisica, Università di Catania, 1996
- Fellow positions for carrying research at Catania (1996), BNL laboratory (March-May 1998) and University of Texas (August 1998)
- Ph.D., Università di Catania, *Investigation of light neutron-rich nuclei via ($^7\text{Li}, ^7\text{Be}$) reaction: QRPA description and parameterisation of MAGNEX magnetic elements*, 2002

Professional experience

- Experiments with stable beams at GSI, NSCL-MSU and BNL laboratories (1995-1998), at IPN-Orsay and INFN-LNS (1999-2012) and at Flerov laboratory (2014)
- Work on the MAGNEX spectrometer at LNS-INFN (1999-2001 and 2004)
- Post-doc at Johannes Gutenberg Universität -Mainz (2002-2003)
- Experiments with radioactive beams at GSI and NSCL-MSU
- Visitor at NSCL-MSU (October 2007) and LNS-INFN (March 2011)
- Responsible of FRS electronics and data acquisition (2005-2012) and leader of FRS expert team (2008-2012)
- Spokesperson of S417 GSI proposal (2011) and contact person of several FRS experiments; spokesperson of two approved LNS proposals (2011, 2013)
- Work package leader of the Beam Diagnostic of the Super-FRS at FAIR and member of the Management Board of the Super-FRS collaboration (2012-present)

Current fields of research interests:

- Spectroscopic studies of exotic nuclei
- In-flight separators and magnetic spectrometers
- Detector developments for high intensity ion beams
- Electronics and data acquisition
- Lifetime measurements

Conferences, Workshops, Schools

- Participation to international conferences and workshops as invited speaker
- Invited seminars given at GSI, IPN-Orsay, MSU and RIKEN
- Co-organizer of the 'FRS training course' at GSI (November 16-19, 2010)
- Co-organizer of the 'VIII Tours Symposium on Nuclear Physics and Astrophysics' (Lerzich-Saig, September 2-9, 2012)
- Lectures given at the 'IDPASC School on Frontier Detectors for High Energy and Astroparticle Physics' on Particle Identification of relativistic heavy ions (Siena, October 4-6, 2013)

Academic experience

- External referee of PhD thesis at University of Helsinki (2013)

- Co-supervisor of PhD students at University of Giessen and TU Darmstadt
- Tutor at the 'GSI Summer Student Program'
- Qualified for 'Abilitazione Scientifica Nazionale 2012 Settore 02/A1 seconda fascia'.

Key publications

- *A. Estradé, R. Kanungo, W. Horiuchi, F. Ameil, J. Atkinson, Y. Ayyad, D. Cortina-Gil, I. Dillmann, A. Evdokimov, F. Farinon, H. Geissel, G. Guastalla, R. Janik, M. Kimura, R. Knöbel, J. Kurcewicz, Yu. A. Litvinov, M. Marta, M. Mostazo, I. Mukha, T. Neff, C. Nociforo, H. J. Ong, S. Pietri, A. Prochazka, C. Scheidenberger, B. Sitar, P. Strmen, Y. Suzuki, M. Takechi, J. Tanaka, I. Tanihata, S. Terashima, J. Vargas, H. Weick, and J. S. Winfield*
Proton Radii of $^{12-17}\text{B}$ Define a Thick Neutron Surface in ^{17}B
Phys. Rev. Lett. 113 (2014) 132501.
- *C. Nociforo*
Time of flight measurements at the Super-FRS
Jour. Instr. 9 C01022 (2014).
- *S. Terashima, I. Tanihata, R. Kanungo, A. Estradé, W. Horiuchi, F. Ameil, J. Atkinson, Y. Ayyad, D. Cortina-Gil, I. Dillmann, A. Evdokimov, F. Farinon, H. Geissel, G. Guastalla, R. Janik, M. Kimura, R. Knöbel, J. Kurcewicz, Yu. A. Litvinov, M. Marta, M. Mostazo, I. Mukha, T. Neff, C. Nociforo, H. J. Ong, S. Pietri, A. Prochazka, C. Scheidenberger, B. Sitar, P. Strmen, Y. Suzuki, M. Takechi, J. Tanaka, J. Vargas, J. S. Winfield and H. Weick*
Proton radius of ^{14}Be from measurement of charge-changing cross sections
Prog. Theor. Exp. Phys., (2014) 101D02.
- *J.S. Winfield, H. Geissel, J. Gerl, G. Münzenberg, C. Nociforo, W.R. Plaß, C. Scheidenberger, H. Weick, M. Winkler, M. Yavor*
A Versatile High-Resolution Magnetic Spectrometer for Energy Compression, Reaction Studies and Nuclear Spectroscopy.
Nucl. Instr. Meth. A 704 (2013) 76.
- *C. Nociforo, A. Prochazka, R. Kanungo, T. Aumann, D. Boutin, D. Cortina-Gil, B. Davids, M. Diakaki, F. Farinon, H. Geissel, R. Gernhäuser, R. Janik, B. Jonson, B. Kindler, R. Knöbel, R. Krücken, N. Kurz, M. Lantz, H. Lenske, Yu. A. Litvinov, B. Lommel, K. Mahata, P. Maierbeck, A. Musumarra, T. Nilsson, C. Perro, C. Scheidenberger, B. Sitar, P. Strmen, B. Sun, I. Szarka, I. Tanihata, H. Weick, and M. Winkler*
One-neutron removal reactions on Al isotopes around the N=20 shell closure.
Phys. Rev. C 85 (2012) 044312.
- *J. Kurcewicz, F. Farinon, H. Geissel, S. Pietri, C. Nociforo, A. Prochazka, H. Weick, J.S. Winfield, A. Estradé, P.R.P. Allegro, A. Bail, G. Belier, J. Benlliure, G. Benzoni, M. Bunce, M. Bowry, R. Caballero-Folch, I. Dillmann, A. Evdokimov, J. Gerl, A. Gottardo, E. Gregora, R. Janik, A. Kelic-Heil, R. Knöbel, T. Kubo, Yu. A. Litvinov, E. Merchan, I. Mukha, F. Naqvi, M. Pfützner, M. Pomorski, Zs. Podolyak, P.H. Regan, B. Riese, M.V. Ricciardi, C. Scheidenberger, B. Sitar, P. Spiller, J. Stadlmann, P. Strmen, B. Sun, I. Szarka, J. Taieb, S. Terashima, J. Valiente-Dobon, M. Winkler, Ph. Woods*

Discovery and cross-section measurement of neutron-rich isotopes in the element range from neodymium to platinum with the FRS.

Phys. Lett. B 717 (2012) 371.

C. Nociforo, F. Farinon, A. Musumarra, F. Bosch, D. Boutin, A. Del Zoppo, P. Figuera, M. Fisichella, H. Geissel, R. Knöbel, I. Kojouharov, C. Kozhuharov, T. Kuboki, J. Kurcewicz, Yu. A. Litvinov, M. Mazzocco, Y. Motizuki, F. Nolden, T. Ohstubo, Y. Ohkuma, Z. Patyk, M. G. Pellegriti, S. Pietri, Z. Podolyak, A. Prochazka, M. S. Sanjari, C. Scheidenberger, V. Scuderi, B. Sun, T. Suzuki, D. Torresi, H. Weick, J. S. Winfield, N. Winkler, M. Winkler, H. J. Wollersheim and T. Yamaguchi

Measurements of alpha-decay half-lives at GSI.

Phys. Scr., T150 (2012) 014028.

- *R. Kanungo, A. Prochazka, W. Horiuchi, C. Nociforo, T. Aumann, D. Boutin, D. Cortina-Gil, B. Davids, M. Diakaki, F. Farinon, H. Geissel, R. Gernhäuser, J. Gerl, R. Janik, B. Jonson, B. Kindler, R. Knöbel, R. Krücken, M. Lantz, H. Lenske, Y. Litvinov, B. Lommel, K. Mahata, P. Maierbeck, A. Musumarra, T. Nilsson, C. Perro, C. Scheidenberger, B. Sitar, P. Strmen, B. Sun, Y. Suzuki, I. Szarka, I. Tanihata, Y. Utsuno, H. Weick, and M. Winkler*

Matter radii of $^{32-35}\text{Mg}$

Phys. Rev. C 83, (2011), 021302(R).

- *R. Janik, A. Prochazka, B. Sitar, P. Strmen, I. Szarka, H. Geissel, K.-H. Behr, C. Karagiannis, C. Nociforo, H. Weick, M. Winkler*

Time Projection Chambers with C-pads for heavy ion tracking

Nucl. Instr. Meth. A 640 (2011) 54.

- *R. Kanungo, C. Nociforo, A. Prochazka, Y. Utsuno, T. Aumann, D. Boutin, D. Cortina-Gil, B. Davids, M. Diakaki, F. Farinon, H. Geissel, R. Gernhäuser, J. Gerl, R. Janik, B. Jonson, B. Kindler, R. Knöbel, R. Krücken, M. Lantz, H. Lenske, Y. Litvinov, K. Mahata, P. Maierbeck, A. Musumarra, T. Nilsson, T. Otsuka, C. Perro, C. Scheidenberger, B. Sitar, P. Strmen, B. Sun, I. Szarka, I. Tanihata, H. Weick, M. Winkler*

Structure of ^{33}Mg sheds new light on the N=20 island of inversion half-lives for neutral atoms and bare nuclei

Phys. Lett. B 685 (2010) 253.

- *R. Kanungo, C. Nociforo, A. Prochazka, T. Aumann, D. Boutin, D. Cortina-Gil, et al. D. Boutin, D. Cortina-Gil, B. Davids, M. Diakaki, F. Farinon, H. Geissel, R. Gernhäuser, J. Gerl, R. Janik, B. Jonson, B. Kindler, R. Knöbel, R. Krücken, M. Lantz, H. Lenske, Y. Litvinov, B. Lommel, K. Mahata, P. Maierbeck, A. Musumarra, T. Nilsson, T. Otsuka, C. Perro, C. Scheidenberger, B. Sitar, P. Strmen, B. Sun, I. Szarka, I. Tanihata, Y. Utsuno, H. Weick, and M. Winkler*

One-neutron Removal Measurement Reveals ^{24}O as a New Doubly Magic Nucleus

Phys. Rev. Lett. 102 (2009) 152501.

- *M. Winkler, H. Geissel, H. Weick, B. Achenbach, K.-H. Behr, D. Boutin, A. Brünle, M. Gleim, W. Hüller, C. Karagiannis, A. Kelic, B. Kindler, E. Kozlova, H. Leibrock, B. Lommel, G. Moritz, C. Mühle, G. Münzenberg, C. Nociforo, W. Plass, C. Scheidenberger, H. Simon, K. Sümmerner, N.A. Tahir, A. Tauschwitz, M. Tomut, J.S. Winfield, M. Yavor*

The status of the Super-FRS in-flight facility at FAIR

Nucl. Instr. Meth. B 266 (2008) 4183.

- Yu. A. Litvinov, F. Bosch, H. Geissel, J. Kurcewicz, Z. Patyk, N. Winckler, L. Batist, K. Beckert, D. Boutin, C. Brandau, L. Chen, C. Dimopoulou, B. Fabian, T. Faestermann, A. Fagner, L. Grigorenko, E. Haettner, S. Hess, P. Kienle, R. Knöbel, C. Kozhuharov, S.A. Litvinov, L. Maier, M. Mazzocco, F. Montes, G. Münzenberg, A. Musumarra, C. Nociforo, F. Nolden, M. Pfützner, W.R. Plaß, A. Prochazka, R. Reda, R. Reuschl, C. Scheidenberger, M. Steck, T. Stöhlker, S. Torilov, M. Trassinelli, B. Sun, H. Weick, and M. Winkler
Measurement of β^+ and orbital electron-capture decay rates in fully-ionized, hydrogen-like, and helium-like ^{140}Pr ions
Phys. Rev. Lett. 99 (2007) 262501.
- A. Klimkiewicz, N. Paar, P. Adrich, M. Fallot, K. Boretzky, T. Aumann, D. Cortina-Gil, U. Datta Pramanik, Th. W. Elze, H. Emling, H. Geissel, M. Hellström, K.L. Jones, J.V. Kratz, R. Kulesa, C. Nociforo, R. Palit, H. Simon, G. Surówka, K. Sümmerer, D. Vretenal, and W. Waluś
Nuclear symmetry energy and neutron skins derived from pygmy dipole resonances
Phys. Rev. C 76 (2007) 0516303(R).
- I. Mukha, K. Sümmerer, L. Acosta, M. Alvarez, E. Casarejos, A. Catillon, D. Cortina-Gil, J. Espino, A. Formichev, J.E. Garcia-Ramos, H. Geissel, J. Gomez-Camacho, L. Grigorenko, J. Hoffmann, O. Kiselev, A. Korshennikov, N. Kurz, Yu. Litvinov, I. Martel, C. Nociforo, W. Ott, M. Pfützner, C. Rodriguez-Tajes, E. Roeckl, M. Stanoiu, H. Weick, and P.J. Woods
Observation of two-proton radioactivity of ^{19}Mg by tracking the decay products
Phys. Rev. Lett. 99 (2007) 182501.
- C. Nociforo, F. Cappuzzello, A. Cunsolo, A. Foti, S.E.A. Orrigo, J.S. Winfield, M. Cavallaro, S. Fortier, D. Beaumel, and H. Lenske
Exploring the $N\alpha+3n$ light nuclei via the ($^7\text{Li}, ^7\text{Be}$) reaction
Eur. Phys. J. A 27 (2006) 283.
- C. Nociforo, K.L. Jones, L.H. Kiem, P. Adrich, T. Aumann, B.V. Carlson, D. Cortina-Gil, U. Datta Pramanik, Th.W. Elze, H. Emling, H. Geissel, M. Hellström, J.V. Kratz, R. Kulesa, T. Lange, Y. Leifels, H. Lenske, E. Lubkiewicz, G. Münzenberg, R. Palit, H. Scheit, H. Simon, K. Sümmerer, S. Typel, E. Wajda, W. Walus, H. Weick
Coulomb breakup of ^{23}O
Phys. Lett. B 605 (2005) 79.
- P. Adrich, M. Fallot, K. Boretzky, T. Aumann, D. Cortina-Gil, U. Datta Pramanik, Th. W. Elze, H. Emling, H. Geissel, M. Hellström, K.L. Jones, J.V. Kratz, R. Kulesa, Y. Leifels, C. Nociforo, R. Palit, H. Simon, G. Surówka, K. Sümmerer, and W. Walus
Evidence for Pygmy and Giant Dipole Resonances in ^{130}Sn and ^{132}Sn
Phys. Rev. Lett. 95 (2005) 132501.
- R. Palit, P. Adrich, T. Aumann, K. Boretzky, B.V. Carlson, D. Cortina, U. Datta Pramanik, Th. W. Elze, H. Emling, H. Geissel, M. Hellström, K.L. Jones, J.V. Kratz, R. Kulesa, Y. Leifels, A. Leistenschneider, G. Münzenberg, C. Nociforo, P. Reiter, H. Simon, K. Sümmerer, W. Walus

Exclusive measurement of breakup reactions with the one-neutron halo nucleus ^{11}Be
Phys. Rev. C 68 (2003) 034318.

- *A. Cunsolo, F. Cappuzzello, A. Foti, A. Lazzaro, A.L. Melita, C. Nociforo, V. Shchepunov, J.S. Winfield*
 Technique for 1st order design of a large-acceptance magnetic spectrometer, and
 Ion optics for large-acceptance spectrometers: Application to the MAGNEX
 spectrometer,
Nucl. Instr. and Meth. A 481 (2002) 48 and Nucl. Instr. and Meth. A 484 (2002) 56.
- *S. Albergo, R. Bellwied, M. Bennett, D. Boemi, B. Bonner, Z. Caccia, H. Caines, W. Christie, G. Cinà, S. Costa, H. Crowford, M. Cronqvist, R. Debbe, J. Engelage, I. Flores, L. Greiner, T. Hallman, G. Hoffman, H. Huang, T.J. Humanic, G. Igo, A. Insolia, P. Jensen, E. Judd, K. Kainz, M. Kaplan, S. Kelly, I. Kotov, G. Kunde, P. Lindstrom, T. Ljubicic, W. Llope, G. Lo Curto, R. Longacre, D. Lynn, L. Madansky, N. Mahzeh, Z. Milosevich, J.T. Mitchell, J. Mitchell, S. Nehmeh, C. Nociforo, S. Paganis, S.U. Pandey, R. Potenza, E. Platner, P. Riley, D. Russ, A. Saulys, J. Schambach, J. Sheen, C. Stokley, E. Sugarbaker, J. Takahashi, J. Tang, S. Trentalange, A. Tricomi, C. Tull, C. Tuvè, J. Whitfield, K. Wilson*
 Λ Spectra in 11.6 A GeV/c Au-Au Collisions
Phys. Rev. Lett. 88 (2002) 062301.
- *F. Cappuzzello, A. Cunsolo, S. Fortier, A. Foti, M. Khaled, H. Laurent, H. Lenske, J.M. Maison, A.L. Melita, C. Nociforo, L. Rosier, C. Stephan, L. Tassan-Got, J.S. Winfield, H.H. Wolter*
 Excited states of ^{11}Be ,
Phys. Lett. B 516 (2001) 21.
- *T. Odeh, R. Bassini, M. Begemann-Blaich, S. Fritz, S.J. Gaff-Ejakov, D. Gourio, C. Groß, G. Immè, I. Iori, U. Kleinevoß, G.J. Kunde, W.D. Kunze, U. Lynen, V. Maddalena, M. Mahi, T. Möhlenkamp, A. Moroni, W.F.J. Müller, C. Nociforo, et al.*
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- *S. Fritz, C. Schwarz, R. Bassini, M. Begemann-Blaich, S.J. Gaff-Ejakov, D. Gourio, C. Groß, G. Immè, I. Iori, U. Kleinevoß, G.J. Kunde, W.D. Kunze, U. Lynen, V. Maddalena, M. Mahi, T. Möhlenkamp, A. Moroni, W.F.J. Müller, C. Nociforo, et al.*
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Phys. Lett. B 461 (1999) 315.
- *V. Serfling, C. Schwarz, R. Bassini, M. Begemann-Blaich, S. Fritz, S.J. Gaff, C. Groß, G. Immè, I. Iori, U. Kleinevoß, G.J. Kunde, W.D. Kunze, U. Lynen, V. Maddalena, M. Mahi, T. Möhlenkamp, A. Moroni, W.F.J. Müller, C. Nociforo, et al.*
 Temperatures of exploding Nuclei
Phys. Rev. Lett. 80 (1998) 3928.

Other publications

- Technical Design Report for Super-FRS, Status from March, 27th 2009
https://edms.cern.ch/file/994387/1/TDR_Super-FRS_090326_MASTER_2.pdf

- Kanungo R, Nociforo C (2009). ^{24}O : A Doubly Magic Nucleus at the Neutron-Drip Line. Nuclear Physics News, vol. 19.
- C. B. Hinke, et al., Superaligned Gamow–Teller decay of the doubly magic nucleus ^{100}Sn , Nature 486 (2012) 341.
- More than 100 peer reviewed articles published in international Journals and Conference Proceedings
- More than 100 activity laboratory reports.

Awards

- CSFNSM Fellowship (1996)
- INFN Fellowship for young researcher in Relativistic Heavy Ion Collisions (1997-1998)