Abschlussbericht

ISOLDE, HIE-ISOLDE und REX-ISOLDE
Deutscher Beitrag für die Betriebskosten

Vorhaben: **06HD9116I** bzw. 05P09EKCI1
Förderperiode: 01.07.2009 bis 30.06.2012
Projektleiter: Prof. Dr. Klaus Blaum
Hochschule: Max-Planck-Institut für Kernphysik

Zusammenfassung

Ein Großteil der experimentellen Infrastruktur bei ISOLDE/CERN ist Eigentum der ISOLDE-Kollaboration und wird von dieser gewartet und weiterentwickelt. Die Kollaboration, bestehend aus inzwischen 14 europäischen Mitgliedsländern sowie dem CERN, finanzieren mit dem vertraglich festgelegten Kollaborationsbeitrag in Höhe von 60.000 CHF/a (ca. 43.000 EUR/a) pro Mitglied diese Aktivität. Im Jahre 2009 wurde ein aktualisiertes Memorandum of Understanding „for Collaboration in the Exploitation and Upgrade of the ISOLDE Facility at the PS-Booster“ zwischen dem CERN und den Mitgliedsländern geschlossen, um auch die Aktivitäten zum Ausbau der ISOLDE-Anlage, dem sogenannten HIE-ISOLDE Projekt, darin festzuhalten. Eine weitere Aktualisierung des MoUs fand jüngst noch einmal statt, um neue Mitglieder wie beispielsweise Indien aufzunehmen. Wesentliche Schwerpunkte der von der Kollaboration unterstützten Experimente und Aktivitäten sind die vereinbarte Bereitstellung der Infrastruktur für REX-ISOLDE, die vertragsgemäße Beteiligung am Erhaltungsprogramm „ISOLDE Consolidation“, der Ausbau von HIE-ISOLDE und die Veranstaltung der jährlich stattfindenden ISOLDE-Workshops. Im Rahmen dieser Förderperiode wurden vom BMBF zusätzliche Mittel in Höhe von 60.000 CHF/a (ca. 43.000 EUR/a) für den ISOLDE-Upgrade (HIE-ISOLDE) zur Verfügung gestellt, mit dem Ziel, höhere Intensitäten und Ladungszustände bei den Radionukliden sowie höhere Energien bei REX-ISOLDE zu erreichen.

Umfeld und Aktivitäten der ISOLDE-Kollaboration

ISOLDE ist seit vielen Jahren ein wichtiges Forschungsprogramm am CERN, welches zu den wenigen Experimentieranlagen zählt, die außerhalb des LHC-Projektes längerfristig verfolgt werden. Das große Interesse an den Experimentiermöglichkeiten an ISOLDE zeigt sich u.a. darin, dass gerade mit Indien Beitrittsverhandlungen positiv abgeschlossen werden konnten. Die ISOLDE-Kollaboration umfasst damit nun 15 Mitgliedsländer (Belgien, CERN, Dänemark, Deutschland, England, Finnland, Frankreich, Griechenland, Indien, Irland, Italien, Norwegen, Rumänien, Schweden und Spanien). Die Beteiligung seitens CERN sowie der finanzielle Beitrag des CERN als gastgebendes Laboratorium zur ISOLDE-Kollaboration wurden erst 2009/2010 wieder bestätigt bzw. mit der Zusage zur Übernahme der Hälfte der Ausbaukosten für HIE-ISOLDE sogar intensiviert.

Das HIE-ISOLDE-Projekt (siehe auch: http://hie-isolde.web.cern.ch/hie-isolde/) umfasst drei Schwerpunktthemen: höhere Energien, Verbesserungen der Strahlqualität und höhere Strahlintensitäten. Dazu zählen die Entwicklung neuer Ionenquellentypen, die Umstellung der Laserionenquelle auf ausschließlich Festkörperlaser, die Verbesserung des Ladungsbrütens

mit der REX-EBIT sowie das Austauschen der konventionellen REX-ISOLDE-Beschleunigerstruktur durch supraleitende Kavitäten mit einer Maximalenergie in der Endausbaustufe von 10 MeV/u (vorgesehen für das Jahr 2018). Bei einem Teil dieser Entwicklungsarbeiten, wie dem Lasersystem und dem Radiofrequenzquadrupol ISCOOL, waren deutsche Gruppe in besonderem Maße beteiligt.

Beim REX-ISOLDE Projekt ist die ISOLDE-Kollaboration zusammen mit den Nutzergruppen anteilig mit der dazu gehörigen Infrastruktur beteiligt und damit ebenfalls für die Erhaltung der Geräte mitverantwortlich.

Arbeitsintensive, aber aufgrund erhöhten Sicherheitsstandards zwingend notwendige Umbaumaßnahmen im Rahmen des „ISOLDE-Konsolidierungsprogramms“ wurden im Laufe dieser Projekt-/Förderperiode 2009-2012 vollständig abgeschlossen. Dazu zählten:

- die Entwicklung und Fertigung von austauschbaren „Front-Ends“ im heißen Target Bereich.
- Einrichtung eines „Class A“ Labors für die Handhabung von ISOLDE-Targets sowie dessen Ausdehnung auf den gesamten Experimentierbereich von ISOLDE in der Experimentierhalle.
- Erneuerung der rechnergestützten ISOLDE-Kontrolle und -Steuerung.
- Integration des ISOLDE-Kontrollsystems in das CERN-Kontrollsystem.
- die Erweiterung der ISOLDE-Halle mit einer Flächenvergrößerung um ca. 40%.
- Aufbau eines off-line Labors zur Vorbereitung von Experimenten.
- Installation und Test eines neuen Bandsystems zur Bestimmung der Ausbeute in der Produktion radioaktiver Isotope.
- Konsolidierung des ISOLDE Vakuumsystems.
- Das vor wenigen Jahren gestartete HIE-ISOLDE Projekt wurde im Rahmen der laufenden Förderperiode ebenfalls sehr stark vorangetrieben (siehe unten).

Wichtige im Berichtszeitraum stattgefundene Veranstaltungen für die „ISOLDE-User“, auf denen neue experimentelle Ergebnisse vorgestellt und zukünftige Experimente diskutiert wurden, waren:

- November 2009 / Dezember 2010 / Dezember 2011 ISOLDE-Users Workshop
- ISOLDE Lecture Series (2009, 2010, 2011, 2012)
- EURORIB Konferenz (Juni 2010)
- Hyperfine Interactions Konferenz (September 2010)

Die ISOLDE-Kollaboration ist bei diesen Workshops organisatorisch und teilweise auch finanziell beteiligt zur Förderung junger Teilnehmer.

Als herausragend zu würdigen ist die Genehmigung eines ISOLDE-Antrags (Titel „CATHI – Cryogenics, Accelerators and Targets at HIE-ISOLDE“) an die EU im 7. Rahmenprogramm unter der Rubrik „People“. Hier werden im Zeitraum 2010-2014 ca. 15 neue Doktoranden- und PostDoc-Stellen an ISOLDE für HIE-ISOLDE finanziert.

ISOLDE-Experimentierprogramm

Das ISOLDE-Komitee ISCC trifft sich drei- bis viermal jährlich, um wichtige Entscheidungen bezüglich ISOLDE-Kollaboration und -Experimentieranlage zu treffen. Am gleichen Tag findet auch das Treffen des CERN-Experimentkomitees INTC statt, auf dem eingereichte Experimentvorschläge an ISOLDE vorgestellt und diskutiert werden. Jüngst wurde der derzeitige Sprecher der deutschen Gruppen an ISOLDE (Prof. Dr. Klaus Blaum) zum nächsten Vorsitzenden des INTC für die Periode 01.01.2013-31.12.12.2015 gewählt.

Herr Prof. Dr. Lutz Schweikhard (Universität Greifswald) übernimmt von Herrn Blaum das Amt des deutschen Sprechers an ISOLDE.

Die ISOLDE-Kollaboration ist mit der Organisation der ihr zugeordneten Infrastruktur für die technische Durchführbarkeit der Experimente mit entscheidend. Die Liste der bewilligten Experimente sind auf der ISOLDE-Homepage unter:
www.cern.ch/isolde/experiments/explist.php
zu finden und ist diesem Bericht beigefügt. Abb. 1 zeigt die mit Beteiligung deutscher Universitäten und Forschungseinrichtungen betriebenen Experimentiereinrichtungen an ISOLDE.

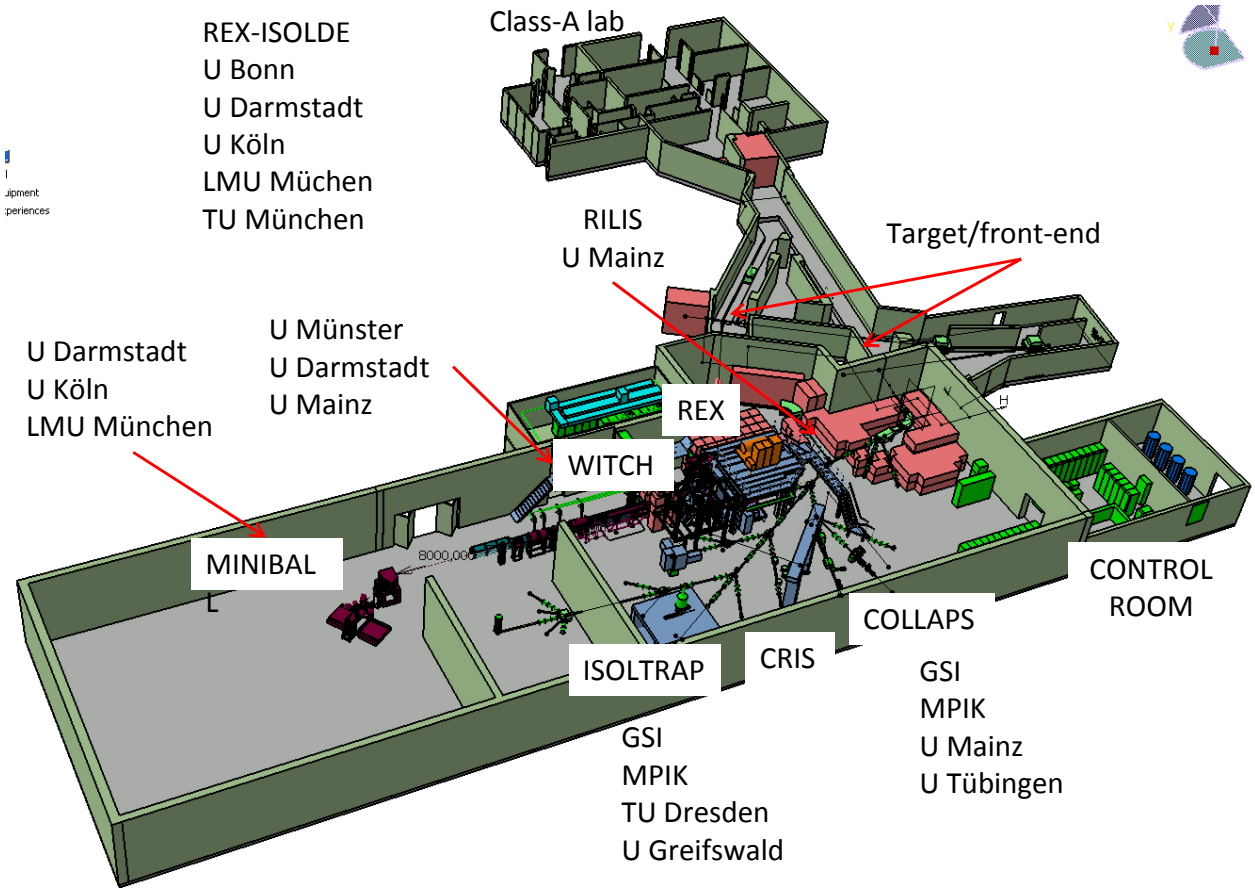

Abb. 1: Experimentieranlagen an ISOLDE-CERN mit Beteiligung deutscher Universitäten und Forschungseinrichtungen (nicht aufgeführt sind die Festkörperphysik-Gruppen).

Im Laufe der Förderperiode sind ca. 180 Publikationen basierend auf ISOLDE-Aktivitäten entstanden, darunter erschienen 20 Artikel in der renommierten Zeitschrift *Physical Review Letters* und 28 Artikel in *Physical Review C* (siehe Liste im Anhang). Weiterhin haben mehr als 20 Personen ihren Bachelor/Master/PhD-Abschluss an deutschen Universitäten mit Ergebnissen von ISOLDE-Experimenten abgeschlossen.

Eine Übersicht über die von ISOLDE für die Nutzer zur Verfügung gestellte Anzahl an Shifts (8h/Shift) mit radioaktiven Strahlen ist in Tab. 1 gezeigt.

Tab. 1: Den Usern an ISOLDE zur Verfügung gestellte Zahl an Shifts (jeweils 8h) für den Zeitraum 2009-2012

Jahr	Strahlzeittage	Anzahl Shifts	Durchschnitt
2009	220	350	1,6 Shifts/Tag
2010	205	350	1,7 Shifts/Tag
2011	200	460	2,3 Shifts/Tag
2012	260	520*	2,0 Shifts/Tag

* vorläufig

Die Aufteilung der Shifts in Prozent auf die jeweiligen Experimentprogramme für das Jahr 2011 (Kernstrukturphysik, Nukleare Astrophysik, Fundamentale Wechselwirkungen etc.) ist in Abb. 2 dargestellt. Die Verteilung blieb in den letzten Jahren relativ stabil. Der Strahlzeitkoordinator war bis September 2010 Dr. Alexander Herlert (früher Universität Greifswald), nun hat Frau Dr. Magdalena Kowalska (früher Max-Planck-Institut für Kernphysik Heidelberg) die Koordinatorstelle übernommen.

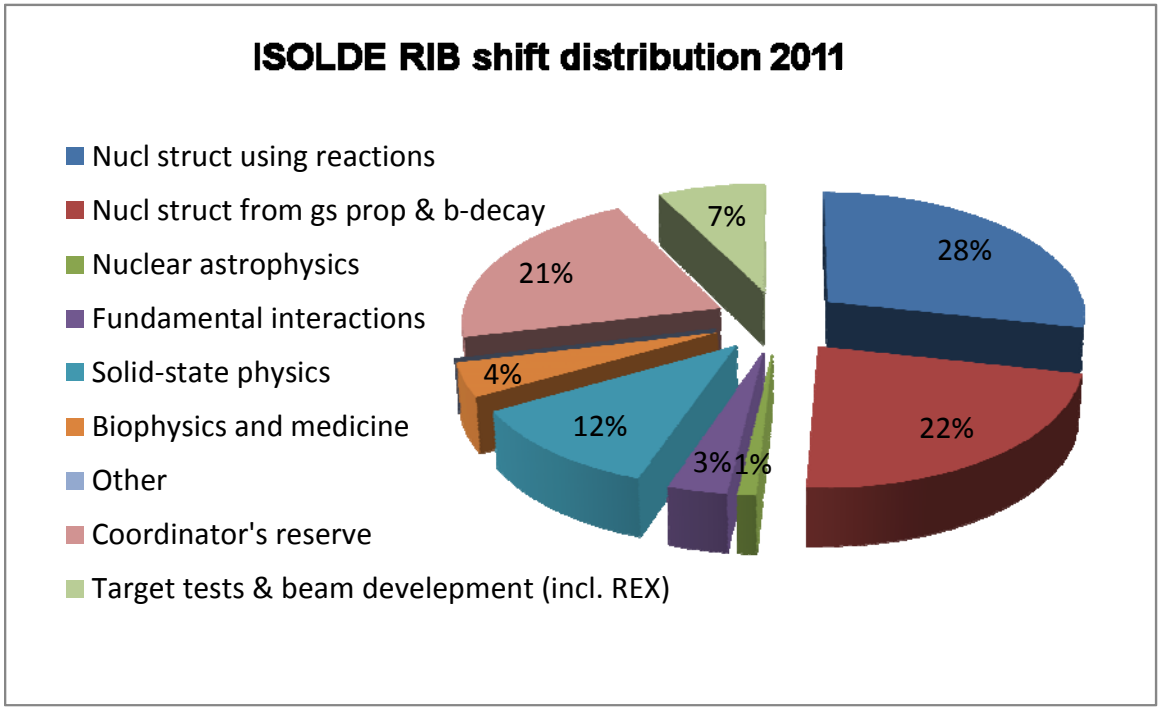

Abb. 2: Verteilung der bereitgestellten Ionenstrahlen für die unterschiedlichen Experimentprogramme in 2011.

Anlagen:

- ISOLDE-Experimentprogramm 2009-2012
- ISOLDE-Publikationsliste 2009-2012

EXP.#	Year	FIRST AUTHOR	AUTHORS	TITLE	JOURNAL	CDS	AFFILIATION
IS501	2012	Gunnlaugsson, H.P.	et al.	Lattice locations and properties of Fe in Co/Fe co-implanted ZnO	Appl. Phys. Lett. 100, 042109 (2012		
IS501	2012	Molholt, T.E.	et al.	Spin-lattice relaxations of paramagnetic Fe^{3+} in ZnO	Phys. Scr. 2012 014006 doi:10.1088/0031-8949/2012/T148/014006		
IS492	2012	Cullen, J.	et al.	Photoluminescence due to group IV impurities in ZnO	MRS proceedings Vol. 1394 /2012.		
	2012	Stora, T.	et al.	A high intensity ^{6}He beam for the β-beam neutrino oscillation facility	EPL 98 32001 doi:10.1209/0295-5075/98/32001		
	2012	Luis, R.	Marques,J.G.; Stora, T.; Vaz, P.; Zanini, L.	Optimization studies of the CERN-ISOLDE neutron converter and fission target system	The European Physical Journal A - Hadrons and Nuclei Volume 48, Number 6 (2012), 90, DOI: 10.1140/epja /i2012-12090-9		
	2012	Noah, E.	et al.	Post-irradiation analysis of the tantalum container of an ISOLDE LBE target	Journal of Nuclear Materials, in press		
	2012	Zocca, F.	et al.	Development of a silicon detector monitor for the HIE-ISOLDE superconducting upgrade of the REX-ISOLDE heavy-ion linac	Nucl. Instrum. Meth. A 672, 21		
	2012	Krieger, A.	et al.	Nuclear Charge Radius of 12Be	Phys. Rev. Lett. 108, 142501		
IS497	2012	Yordanov, D.		Nuclear Charge Radii of 21-32Mg	Phys. Rev. Lett. 108, 042504		
	2012	Herlert, A.	et al.	Recoil-ion trapping for precision mass measurements	Eur. Phys. J. A 48, 97 (2012)		
	2012	Naimi, S.	et al.	Surveying the N = 40 island of inversion with new manganese masses	Phys. Rev. C 86, 014325 (2012)		
	2012	Rosenbusch, M.	et al.	Buffer-gas-free mass-selective ion centering in Penning traps by simultaneous dipolar excitation of magnetron motion and quadrupolar excitation for interconversion between magnetron and cyclotron motion	Int. J. Mass Spectrom.		
	2012	Kowalska, M.	et al.	Trap-assisted decay spectroscopy with ISOLTRAP	Nucl. Instr. and Meth. A 689, 102-107 (2012)		
	2012	Eolf, R.N.	et al.	On-line separation of short-lived nuclei by a multi-reflection time-of-flight device	Nucl. Instr. and Meth. A 686, 82-90 (2012)		
	2012	Fink, D.	et al.	Q Value and Half-Lives for the Double-β-Decay Nuclide ^{110}Pd	Phys. Rev. Lett. 108, 062502 (2012)		
	2012	Rosenbusch, M.	et al.	A study of octupolar excitation for mass-selective centering in Penning traps	Int. J. Mass Spectrom. 314, 6-12 (2012)		
	2012	Fraser, M.	et al.	Longitudinal emittance measurements at REX-ISOLDE	Nucl. Instrum. Meth. A 663, 1		
	2012	Vibenholt, J.	et al.	Application of 204mPb perturbed angular correlation of gamma-rays (PAC) spectroscopy in coordination chemistry	Inorg. Chem., 2012, 51 (4), pp 1992–1994		
	2012	Albers, M.	et al.	Evidence for a Smooth Onset of Deformation in the Neutron-Rich Kr Isotopes	Phys. Rev. Lett. 108, 062701 (2012)		
	2012	Fernandes Ramos, J.P.		Effect of Calcium Oxide Microstructure on the Diffusion of Isotopes	Masters Thesis	http://cdsweb.cern.ch /record/1425438/	
	2012	Estevez, E.		TAS measurements for neutrino physics and nuclear structure: study of the beta decays of 150Er, 152,156Yb and 188,190,192Pb	PhD Thesis		PhD Thesis University of Valencia
IS409	2012	Albers, M.	et al.	Evidence for a smooth onset of deformation in the neutron-rich Kr isotopes	Phys. Rev. Lett. 108, 062701 (2012)		
IS450	2012	Koskelo, O.	et al.	Migration kinetics of ion-implanted beryllium in GaN and ZnO	Physica Status Solidi B (submitted)		
IS481	2012	Kessler, P.	et al.	Cd doping of AlN via ion implantation studied with perturbed angular correlation	Physica Status Solidi C Volume 9 , Issue 3-4 pages 1032–1035, March 2012		
IS481	2012	Miranda, S.M.C.	et al.	Ion implantation of Cd and Ag into AlN and GaN	Phys. Status Solidi C 9, No. 3–4, 1060–1064 (2012)		
IS482	2012	Albers, M.	et al.	Evidence for a smooth onset of deformation in the neutron-rich Kr isotopes	Phys. Rev. Lett. 108, 062701 (2012)		
IS487	2012	Oliveira, G.N.P.	et al.	Synthesis, Characterization and Local Probe Studies in Magnetoelectric AgCrO2	Physica Status Solidi C (submitted)		
IS489	2012	Wolf, H.	et al.	Shift of Ag diffusion profiles in CdTe by metal/semiconductor interfaces	Applied Physics Letters, Volume 100, Issue 17, id. 171915		
	2012	Goncalves, J.N.	et al.	Ab initio study of the relation between electric polarization and electric field gradients in ferroelectrics	Phys. Rev. B 86, 035145 (2012)		
	2012	Dessler, R.	et al.	44Ti, 26Al and 53Mn samples for nuclear astrophysics: the needs, the possibilities and the sources	J. Phys. G: Nucl. Part. Phys. 39 105201		
	2011	Blaum, K.	et al.	Measurements of ground-state properties for nuclear structure studies by precision mass and laser spectroscopy	J. Phys. Conf. Ser. 312, 092001 (2011)		
	2011	Herlert, A.	et al.	Effects of space charge on the mass purification in Penning traps	Hyperfine Interactions, 199, 211-220 (2011)		
IS492	2011	Peaker, A.R.	et al.	Laplace deep level transient spectroscopy: Embodiment and evolution	PhysicaB(2011), doi:10.1016/j.physb.2011.08.107.		

IS492	2011	Steger, M.	et al.	Photoluminescence of deep defects involving transition metals in Si – new insights from highly enriched ^{28}Si	Applied Physics Reviews 110 081301 (2011).		
IS488	2011	Chakraborty, S.	et al.	Realization of a Designed Three-Helix Bundle Capable of Binding Heavy Metals in a Tris(Cysteine) Environment	Angew. Chem. Int. Ed. 2011, 50, 2049-2053		
	2011	Arndt, O.	et al.	Decay of the r-process nuclides 137,138,139Sb, and the A=130 solar r-process abundance peak	Phys. Rev. C 84, 061307 (2011)		
	2011	Tengborn, E	et al.	The 8Li + 2H reaction studied in inverse kinematics at 3.15 MeV/nucleon using the REX-ISOLDE post-accelerator	Phys. Rev. C 84, 064616 (2011)		
	2011	Koester, U	et al.	In-source laser spectroscopy of 75,77,78Cu: Direct evidence for a change in the quasiparticle energy sequence in 75,77Cu and an absence of longer-lived isomers in 78Cu	Phys. Rev. C 84, 034320 (2011)		
	2011	Mendonca, T.	et al.	Oxygen ordering in the high-Tc superconductor HgBa2CaCu2O6+d as revealed by perturbed angular correlation	Phys. Rev. B 84, 094524 (2011)		
IS466	2011	Elseviers, J.	et al.	Shape coexistence in 180Hg studied through the ß decay of 180Tl	Phys. Rev. C 84, 034307		
IS453	2011	Pereira, L. M.	et al.	Mixed Zn and O substitution of Co and Mn in ZnO	Phys. Rev. B 84, 125204 (2011)		
IS453	2011	Pereira, L. M.	et al.	Direct identification of interstitial Mn in heavily p-type doped GaAs and evidence of its high thermal stability	Appl. Phys. Lett. 98, 201905 (2011)		
	2011	Golovko, V.	et al.	Hyperfine field and hyperfine anomalies of copper impurities in iron	Phys. Rev. C 84, 014323 (2011)		
IS482	2011	Rapisarda, E.	et al.	Coulomb excitation of the 3- isomer in 70Cu	Phys. Rev. C 84, 064323 (2011)		
	2011	Borgmann, Ch.	et al.	Cadmium mass measurements between the neutron shell closures at N = 50 and 82	AIP Conf. Proc. 1377, 332 (2011)		
IS413	2011	Herfurth, F.	et al.	New mass data for the rp-process above Z = 32	Eur. Phys. J. A 47, 75 (2011)		
IS433	2011	Beck, M.	et al.		Eur. Phys. J. A 47 (2011) 45		
IS501	2011	Bharuth-Ram, K.	Dlamini, W.B.; Masenda, H.; Naidoo, D.; Gunnlaugsson, H.P. et al.	57Fe Mössbauer studies on 57Mn* implanted InP and InAs	Nucl. Instrum. Meth. B 272, 414		
IS456	2011	Cocolios, T.E.	et al.	Early Onset of Ground State Deformation in Neutron Deficient Polonium Isotopes	Phys. Rev. Lett. 106, 052503		
IS457	2011	Mané, E.	Cheal, B.; Billowes, J.; Bissell, M.L.; Blaum, K. et al.	Ground-state spins and moments of 72,74,76,78Ga nuclei	Phys. Rev. C 84, 024303 (2011)		
	2011	Wimmer, K.	Köster, U.; Hoff, P.; Kröll, Th.; Krücken, R. et al.	Identification of the slow E3 transition 136Csm→136Cs with conversion electrons	Phys. Rev. C 84, 014329 (2011)		
IS487	2011	Goncalves, J.N.	Amaral, V.; Correia, J.G.; Lopes, A.M.	Hyperfine interactions in MnAs studied by perturbed angular correlations of γ-rays using the probe Br77→ Se77 and first-principles calculations for MnAs and other Mn pnictides	Phys. Rev. B 83, 104421 (2011)		
IS497	2011	Vingerhoets, P.	Flanagan, K.; Billowes, J.; Bissell, M.L.; Blaum, K. et al.	Magnetic and quadrupole moments of neutron deficient 58–62Cu isotopes	Phys. Lett. B 703, 34 (2011)		
	2011	Fraser, M.	Jones, R.M.; Pasini, M.	Beam dynamics design studies of a superconducting radioactive ion beam postaccelerator	Phys. Rev. ST Accel. Beams 14, 020102 (2011)		
IS453	2011	Wahl, U.		Materials science and biophysics applications at the ISOLDE radioactive ion beam facility	Nucl. Instrum. Meth. In Physics Research Section B: Beam Interactions with Materials and Atoms		
IS482	2011	Seidlitz, M.	Mücher, D.; Reiter, P.; Bildstein, V.; Blazhev, A. et al.	Coulomb excitation of 31Mg	Physics Letters B, Volume 700, Issues 3-4, 13 June 2011, Pages 181-186		
	2011	Gustafsson, A.	et al.	Mass-selective operation with REX-TRAP	Nucl. Instrum. Meth. A 626		
	2011	Dey, S.	Gupta, D.; Maulik, A.; Sibaji Raha; Swapan K. Saha et al.	Calibration of a solid state nuclear track detector (SSNTD) with high detection threshold to search for rare events in cosmic rays	doi:10.1016/j.astropartphys.2011.02.005		
	2011	Venhart, M.	et al.	Shape coexistence in odd-mass Au isotopes: Determination of the excitation energy of the lowest intruder state in 179Au	Phys. Lett. B 695, 82		
	2011	George, S.	et al.	Damping effects in Penning trap mass spectrometry	Int. J. Mass Spectrom. 299, 102		
	2011	Van Duppen, P.	Riisager, K.	Physics with REX-ISOLDE: from experiment to facility	J. Phys. G38 (2011) 024005		

IS481	2011	Kessler, P.	Lorenz, K.; Vianden, R.	Implanted impurities in wide band gap semiconductors	Defect and Diffusion Forum 308, (2011) 167-179		
	2011	Johnston. K.	Cullen, J.; Henry, M.; McGlynn, E.; Stachura, M.	Evidence for As lattice location and Ge bound exciton luminescence in ZnO implanted with ^{73}As and ^{73}Ga	Physical Review B (2011) (in press)		
IS433	2011	Traykov, E.	et al.	A compact radio frequency quadrupole for ion bunching for the WITCH experiment	Nucl. Instr. and Meth. 648 (2011) 1-14.		
IS433	2011	Tandecki, M.	et al.	Computer Controls for the WITCH experiment	Nucl. Instrum. and Methods A, 629, (2011) 396-405		
IS433	2011	Beck, M.	et al.	First detection and energy measurement of recoil ions following beta decay in a Penning trap with the WITCH experiment.	Eur. Phys. J. A 47 (2011) 45		
IS433	2011	Van Gorp, S.	et al.	Simbuca, using a graphics card to simulate Coulomb interactions in a Penning trap	Nucl. Instr. and Meth. A 638 (2011) 192-200		
IS427	2011	Krieger, A.	et al.	Calibration of the ISOLDE acceleration voltage using a high-precision voltage divider and applying collinear fast beam laser spectroscopy	Nucl. Instr. and Meth. A632, 23		
IS451	2011	Clement, E.	et al.	Experimental measurement of the deformation through the electromagnetic probe : Shape coexistence in exotic Kr and Sr isotopes.	Proceeding to Kazimierz, Journal of Modern Physics E20, 415 (2011)		
IS464	2011	Koester, U.	et al.	Slow-neutron-induced charged-particle emission-channeling-measurements with Medipix detectors	Nucl. Instr. Meth. A633 (2011) S267		
IS487	2011	Lopes, A.M.L.	et al.	Local distortions in multiferroic $AgCrO_2$ Triangular Spin Lattice	Physical Review B, 84, 014434 (2011)		
IS490	2011	Naimi, S.	et al.	Mass measurements of short-lived nuclides using the Isoltrap preparation Penning trap	Hyp. Int. 199, 231 (2011)		
IS80	2011	Zboril, M.		Solid electron sources for the energy scale monitoring in the KATRIN experiment	PhD thesis		PhD thesis University of Muenster
IS501	2011	Masenda, H.	et al.	Mössbauer study of ^{119}Sn in ^{119}In* implanted 3C-SiC	Hyp. Int., (2011) DOI 10.1007/s10751-011-0438-x.		
IS488	2010	Hemmingsen, L.	et al.	Selected applications of perturbed angular correlation of gamma-rays (PAC) spectroscopy in biochemistry	Hyperfine Interactions 2010, 197, 255-267		
IS432	2010	Koskelo, O.	et al.	Diffusion of cobalt in ion –implanted ZnO	Thin Solid Films 518(2010) 3894-3897		
IS441	2010	Scuderi, V.	et al.	Structure effects in collisions induced by halo and weakly bound nuclei around the coulomb barrier	Int. Journal of Modern Physics E Vol. 19, Nos. 5&6 (2010) 1236-1240		
IS456	2010	Keupers, M.		Decay study of ^{200}*Fr and* ^{182}*Tl*	M.Sc. Thesis, KULeuven (June 2010).		
IS456	2010	Dexters, W.		Neutron-rich polonium isotopes studied with in-source laser spectroscopy	M.Sc. Thesis, KULeuven (June 2010).		
IS456	2010	Cocolios, T.E.		Single-particle and collective properties around closed shells probed by in-source laser spectroscopy	Ph.D. Thesis, KULeuven (March 2010).		
	2010	Andreyev, A.	Antalic, S.; Ackermann, D.; Cocolios, T.E.; Comas, V.F. et al.	The new isotop ^{179}Pb and alpha-decay properties of ^{179}Tlm	Journal of Physics G 37:035102		
IS482	2010	Ekstrom, A.	Cederkall, J.; Fahlander, C.; Hjorth-Jensen, M.; Engeland, T. et al.	Coulomb excitation of the odd-odd isotopes $^{106, 108}$In	European Physical Journal A 44:355-361		
	2010	Görgen, A.		Shapes and collectivity of exotic nuclei via low-energy Coulomb excitation	J.Phys.G37, 103101 (2010)		
	2010	He, J.J.	Woods, P.J.; Davinson, T.; Aliotta, M.; Buescler, J. et al.	Measurement of the inelastic branch of the stellar ^{14}O(α,p)^{17}F reaction occurring in the explosive burning in Novae and X-ray busters	Nuclear Physics A 834 (2010) 670c–672c		
IS456	2010	Cocolios, T.E.	Andreyev, A.; Antalic, S.; Barzakh, A.; Bastin, B. et al.	Structure of ^{191}Pb from α- and β-decay spectroscopy	Journal of Physics G: Nuclear and Particle Physics		
IS501	2010	Molholt, T.	Mantovan, R.; Gunnlaugsson, H.P.; Naidoo, D.; Olafsson, S. et al.	Observation of spin-lattice relaxations of dilute Fe^{3+} in MgO by Mössbauer spectroscopy	Hyp. Int. 197 (2010) 89-94		
IS501	2010	Gunnlaugsson, H.P.	Sielemann, R.; Molholt, T.E.; Dlamini, W.B.; Johnston, K. et al.	Magnetism in iron implanted oxides: a status report	Hyp. Int. 197 (2010) 43-52		
IS501	2010	Masenda, H.	Naidoo, D.; Bharuth-Ram, K.;	Mössbauer study of ^{57}Fe in GaAs and GaP following $^{57}Mn^{+}$ implantation	Hyp. Int. 198 (2010) 15-22		

			Gunnlaugsson, H.P.; Weyer, G. et al.				
IS501	2010	Gunnlaugsson, H.P.	Mantovan, R.; Molholt, T.; Naidoo, D.; Johnston, K. et al.	Mössbauer spectroscopy of ^{57}Fe in α-Al_2O_3 following implantation of ^{57}Mn*	Hyp. Int. 198 (2010) 5-14		
IS501	2010	Gunnlaugsson, H.P.	Molholt, T.; Mantovan, R.; Masenda, H.; Naidoo, D. et al.	Paramagnetism in Mn/Fe implanted ZnO	Appl. Phys. Lett. 97 (2010) 142501, doi:10.1063/1.3490708		
IS466	2010	Andreyev, A.	et al.	New Type of Asymmetric Fission in Proton-Rich Nuclei	Phys. Rev. Lett. 105, 252502		
	2010	Di Pietro, A.	et al.	Elastic Scattering and Reaction Mechanisms of the Halo Nucleus 11Be around the Coulomb Barrier	Phys. Rev. Lett. 105, 022701		
	2010	Ekstroem, A.	et al.	Determination of the isomeric fraction in a postaccelerated radioactive ion beam using the coupled decay chain equations	Nucl. Instrum. Meth. A 614, 303		
	2010	Gustafsson, A.	et al.	Mass-selective operation with REXTRAP	Nucl. Instrum. Meth. 626-627, 8		
	2010	Deo, A.	et al.	Structures of 201Po and 205Rn from EC/beta+-decay studies	Phys. Rev. C 81, 024322		
	2010	Blank, B.	et al.	Precise half-life measurements for 38Ca and 39Ca	Eur. Phys. J. A 44, 363		
IS457	2010	Cheal, B.	et al.	Discovery of a long-lived low-lying isomeric state in 80Ga	Phys. Rev. C 82, 051302		
IS457	2010	Cheal, B.	et al.	Nuclear Spins and Moments of Ga Isotopes Reveal Sudden Structural Changes between N=40 and N=50	Phys. Rev. Lett. 104, 252502		
IS497	2010	Yordanov, D.T.	and the COLLAPS Collaboration	Laser Spectroscopy in the Island of Inversion	Hyp. Int. 196, 53		
IS497	2010	Yordanov, D.T.		Comment on "Intruder configurations in the A=33 Isobars: 33Mg and 33Al	Phys. Rev. Lett. 104, 129201		
	2010	Schwellnus, F.		The laser ion source trap for highest isobaric selectivity in online exotic isotope production	Rev. Sci. Instrum. 81, 02A515		
	2010	Wenander, F.		Charge-breeding of radioactive ions with EBIS and EBIT	J. Instrum. 5, C10004		
IS482	2010	Diriken, J.	et al.	Coulomb excitation of 73Ga	Phys. Rev. C 82, 064309		
IS487	2010	Goncalves, J.N.	et al.	First principles calculations of hyperfine parameters on the Ca manganite with substitutional Cd-modeling of a PAC experiment	J. Magn. And Magn. Mater. 322, 1170		
IS482	2010	Wimmer, K.	et al.	Discovery of the Shape Coexisting 0+ State in 32Mg by a Two Neutron Transfer Reaction	Phys. Rev. Lett. 105, 252501		
IS439	2010	Flanagan, K.	et al.	Experimental determination of an Ip=2- ground state in 72,74Cu	Phys. Rev. C 82, 041302		
	2010	Penescu, L.	et al.	Development of high efficiency Versatile Arc Discharge Ion Source at CERN ISOLDE	Rev. Sci. Instrum. 81, 02A906		
	2010	Breitenfeldt, M.	et al.	Approaching the N = 82 shell closure with mass measurements of Ag and Cd isotopes	Phys. Rev. C 81, 034313		
	2010	Kowalska, M.	and the ISOLTRAP Collaboration	ISOLTRAP results 2006–2009	Hyp. Int. 196, 199		
	2010	Tandecki, M.	et al.	Computer controls for the WITCH experiment	Nucl. Instrum. Meth. A, In Press		
IS497	2010	Zakova, M.	et al.	Isotope shift measurements in the 2s1/2 ->2p3/2 transition of Be+ and extraction of the nuclear charge radii for 7, 10, 11Be	J. Phys. G: Nucl. Part. Phys. 37, 055107		
	2010	Mercurio, M.E.	et al.	Local investigation of hyperfine interactions in pure and Co-doped ZnO	J. Magn. and Magn. Mater. 322, 1195		
	2010	Selevsek, N.	et al.	Zinc ion induced domain organization in metallo-ilactamases: A flexible "zinc arm" for rapid metal ion transfer?	J. Biol. Chem. 284, 16419		
IS497	2010	Vingerhoets, P.	et al.	Nuclear spins, magnetic moments, and quadrupole moments of Cu isotopes from N=28 to N=46: Probes for core polarization effects	Phys. Rev. C 82, 064311		
IS473	2010	Eliseev, S.	et al.	Direct mass measurements of 194Hg and 194Au: A new route to the neutrino mass determination?	Phys. Lett. B. 693, 426		
	2010	Naimi, S.	et al.	Critical-Point Boundary for the Nuclear Quantum Phase Transition Near A=100 from Mass Measurements of 96,97Kr	Phys. Rev. Lett. 105, 032502		
	2010	Van Gorp, S.	et al.	Simbuca, using a graphics card to simulate Coulomb interactions in a Penning trap	Nucl. Instrum. Meth. A, In Press		
	2010	Golovko, V.	et al.	Magnetic moment of 104Agm and the hyperfine magnetic field of Ag in Fe using nuclear magnetic resonance on oriented nuclei	Phys. Rev. C 81, 054323		

	2010	Steger, M.	Yang, A.; Sekiguchi, T.; Saeedi, K.; Thewalt, M.L.W. et al.	Isotopic fingerprints of Pt containing luminescence centers in highly enriched ^{28}Si	Physical Review B 81 235217 (2010)		
IS453	2010	Vantomme, A.	Wahl, U.; De Vries, B.	Lattice location of rare earth impurities in III-nitrides	http://dx.doi.org/10.1007 /978-90-481-2877-8_3		
IS453	2010	Decoster, S.	Cottenier, S.; Wahl, U.; Correia, J.G.; Vantomme, A.	Lattice location of ion implanted Sn and Sn-related defects in Ge	Physical Review B 81 (2010) 155204/1-6		
IS453	2010	Decoster, S.	Cottenier, S.; Wahl, U.; Correia, J.G.; Pereira, L.M.C. et al.	Diluted manganese on the bond-centered site in germanium	Applied Physics Letters 97 (2010) 151914/1-3.		
IS453	2010	Wahl, U.	Correia, J.G.; Decoster, S.; Mendonca, T.	Lattice location of the group V elements Sb, As, and P in ZnO	Proc. SPIE (2010) 7603K/1-15, http://dx.doi.org/10.1117/12.846097		
IS481	2010	Kessler, P.	Lorenz, K.; Miranda, S.M.C.; Correia, J.G.; Johnston, K. et al.	An In-defect complex as a possible explanation for high luminous efficacy of InGaN and AlInN based devices	HFI 197 (2010) 187.		
	2010	Wolf, H.	Kronenberg, J.; Wagner, F.; Wichert, Th. et al.	Pre-requisites for the formation of unusual diffusion profiles in II-VI semiconductors	Phys. Status Solidi B 247 (2010) 1405-1408		
	2010	Tuerker, M.	Deicher, M.; Wolf, H.; Wichert, Th. et al.	Donor-acceptor complexes in ZnO	Hyperfine Interactions 197 *(2010) 173*		
	2010	Wauters, F.	et al.	Precision measurements of the 60Co β-asymmetry parameter in search for tensor currents in weak interactions	PHYSICAL REVIEW C 82, 055502 (2010)		
	2010	Wauters, F.	et al.	Half-life of 221Fr in Si and Au at 4 K and at millikelvin temperatures	PHYSICAL REVIEW C 82, 064317 (2010)		
IS455	2010	Olaizola, B.	Fraile, L.M.; Riisager, K.; Correia, J.G.; Fynbo, H.O.U. et al.	Dependence of the half-life of $^{221}Fr on the implantation environment	AIP Conf. Proc. Vol 1231 (2010) P229-230 Int. Scientific Meeting on Nuclear Physics		
IS355	2010	Mianowski, S.	Werner-Malento, E.; Korgul, A.; Pomorski, M.; Pachucki, K. et al.	Radiative electron capture in the first-forbidden unique decay of 81Kr	Phys. Rev. C82 (2010) 044308		
IS479	2010	Kesteeloot, N.		Coulomb excitation of 200Po studied at REX-ISOLDE with the Miniball gamma spectrometer	Master thesis, KULeuven 2010		
	2010	Jenkins, D.			Proceedings of the DAE Symp.on Nucl. Phys. 55 (2010)		
/S487	2010	Mendonca, T.M.	et al.	Perturbed Angular Correlations Investigations on $YMnO_3$ Multiferroic Manganite	Hyperfine Interactions 197,83 (2010)		
IS487	2010	Oliveira, A.M.L.	et al.	Magnetic hyperfine field at Cr site in AgCrO2 given by perturbed angular correlations	Hyperfine Interactions 197,123 (2010)		
IS412	2009	Van de Walle, J.	Aksouh, F.; Behrens, T.; Bildstein, V.; Blazhev, A. et al.	Low-energy Coulomb excitation of neutron-rich zinc isotopes	Physical Review C79:014309		
IS407	2009	Sauvage, J.	Genevey, J.; Roussiere, B.; Franchoo, S.; Andreyev, A. et al.	Nuclear structure of 189Tl states studied via beta+/EC decay and laser spectroscopy of 189m+gPb	European Physical Journal A 39:33-48		
IS449	2009	Forssen, C.	Caurier, E.; Navratil, P.	Charge radii and electromagnetic moments of Li and Be isotopes from the ab initio no-core shell model	Physical Review C 79:021303		
IS453	2009	Decoster, S.	Cottenier, S.; De Vries, B.; Emmerich, H.; Wahl, U. et al.	Transition metal impurities on the bond-centered site in Ge	Physical Review letters 102 (2009) 065502/1-4		
IS368	2009	Wahl, U.	De Vries, B.; Decoster, S.; Vatomme, A.; Correia, J.G.	Effect of fluence on the lattice site of implanted Er and implantation induced strain in GaN	Nucl. Instrum. Meth. B 267, 1340		
IS453	2009	Decoster, S.	De Vries, B.; Wahl, U.; Correia, J.G.; Vantomme, A.	Lattice location study of implanted In in Ge	J. Appl. Phys. 105, 083522		
IS449	2009	Noertershaeuser, W.	Tiedemann, D.; Zakova, M.; Andjelkovic, Z.; Blaum, K. et al.	Nuclear charge Radii of 7,9,10Be and the one-neutron halo nucleus 11Be	Physical Review Letters 102,062503(2009)		
IS393/IS434	2009	Arndt, O.	Hennrich, S.; Hoteling, N.; Jost, C.; Tomlin, B. et al.	Structure of neutron-rich odd-mass In-127,129,131 populated in the decay of Cd-127,129,131	Acta Physica Polonica B, 40, 437-446(March 2009)		
IS413	2009	Cakirli, B.		Study of the effects of valence proton-neutron interactions in atomic nuclei	PhD Thesis		PhD Istanbul University

IS413	2009	George, S.		First Ramsey-type mass measurements with ISOLTRAP and design studies of the new PENTATRAP project	PhD Thesis		PhD Johanes Gutenberg University, Mainz
IS461	2009	Neidherr, D.	Audi, G.; Beck, D.; Blaum, K.; Boehm, Ch. et al.	Discovery of ^{229}Rn and the structure of the heaviest Rn and Ra isotopes from Penning trap mass measurements.	Phys. Rev. Lett. 102, 112501 1-5 (2009)		
IS461	2009	Cakirli, B.	Casten, R.F.; Winkler, R.; Blaum, K.; Kowalska, M. et al.	An enhanced sensitivity of nuclear energies to collective structure	Phys. Rev. Lett. 102, 082501 1-4 (2009)		
IS413	2009	Beck, D.	Blaum, K.; Bollen, G.; Delahaye, P.;George, S. et al.	Electric and magnetic field optimization procedure for Penning trap mass spectrometers.	Nucl. Instrum. Meth. A, 598, 635-641(2009) arXiv:0805.4549v1 [physics.ins-det]		
	2009	Boehm, C.		Setup of a carbon-cluster laser ion source and the application of the invariance theoem at ISOLTRAP	Diploma Thesis		Diploma Thesis, Johannes-Gutenberg-Universitaet, Mainz
	2009	Steger, M.	Yang, A.; Sekiguchi, T.; Saeedi, K.; Thewalt, M.L.W. et al.	Isotopic fingerprints of gold-containing luminescence centers in ^{28}Si	Physica B 404 5050 (2009)		
	2009	Heinz, U.	Hemmingsen, L.; Kiefer, M.; Adolph, H.W.	Structural Adaptability of Zinc Binding Sites: Different Structures in Partially, Fully, and Heavy Metal Loaded States	Chem. Eur. J. 2009, 15, 7350-7358		
	2009	Schug, M.		Setup and test of a phase sensitive laser frequency long-time stabilization system at COLLAPS	Diploma Thesis		Diploma Thesis, Johannes-Gutenberg-Universitaet, Mainz
	2009	Selevsek, N.	Rival, S.; Tholey, A.; Heinzle, E.; Heinz U. et al.	Zinc ion-induced domain organization in metallo-β-lactamases: A flexible “zinc arm” for rapid metal ion transfer?	Revised version resubmitted to J. Biol. Chem.		
	2009	Kowalska, M.	et al.	Preparing a journey to the east of 208Pb with ISOLTRAP: Isobaric purification at A = 209 and new masses for 211−213Fr and 211Ra	Submitted to EPJA		
	2009	Schwellnus, F.	Catherall, R.; Crepieux, B.; Fedosseev, V.; Marsh, B. et al.	Study of Low Work Function Materials for Hot Cavity Resonance Ionization Laser Ion Sources	Nucl. Instrum. Meth. B 267, 1856		
	2009	Franberg, H.		Production of exotic, short lived carbon isotopes in ISOL-type facilities	PhD Thesis		PhD University of Bern
	2009	Seliverstov, M.D.	Andreyev, A.N.; Barre, N.; Barzakh, S.; Dean, S. et al.	Charge radii and magnetic moments of odd-A 183–189Pb isotopes	European Physical Journal 41:315-321		
	2009	Van de Walle, J.	Bildstein, V.; Bree, N.; Cederkall, J.; Delahaye, P. et al.	In-trap decay of 61Mn and Coulomb excitation of 61Mn/61Fe	European Physical Journal A42:401-406 - Proceedings to the ENAM'08 Conference		
	2009	Ekstrom, A.	Cederkall, J.; DiJulio, D.D.; Fahlander, C.; Hjorth-Jensen, M. et al.	Electric quadrupole moments of the 2+_1 states in 100,102,104Cd	Physical Review C 80:054302		
	2009	Fraser, M.	Pasini, M.; D'Elia, A.; Jones, R.M.	Compensation of transverse field asymmetry in the high-beta quarter-wave resonator of the HIE-ISOLDE linac at CERN	Proceedings of SRF09, p.604		
	2009	D'Elias, A.	Jones, R.M.; Pasini, M.	HIE-ISOLDE high beta cavity study and measurements	Proceedings of SRF09, p.609		
	2009	Calatroni, S.	Pasini, M.; Ramos, D.; Tardy, T.; Trilhe, P.et Palmieri, V.	The HIE-ISOLDE superconducting cavities: mechanical design and fabrication	Proceedings of SRF09, p.546		
	2009	D'Elia, A.	Pasini, M.	Design and characterization of the power coupler line for HIE-ISOLDE high beta cavity	Proceedings of SRF09, p.614		
	2009	Pasini, M.		HIE-ISOLDE: the superconducting rib linac at CERN	Proceedings of SRF09, p.924		
	2009	Kroell, T.	Bildstein, V.; Wimmer, K.; Kruecken, R.; Gernhauser, R. et al.	Transfer reactions on neutron-rich nuclei at REX-ISOLDE	AIP Conference Proceedings 1165:363-368 (Nuclear Structure and Dynamics '09)		
	2009	Patronis, N.;	De Witte, H.; Gorska, M.; Huyse, M.; Kruglov, K. et al.	Beta-decay study of 77Cu	Physical Review C 80:034307		

	2009	He, J.J.	Woods, P.J.; Davinson, T.; Aliotta, M.; Buscher, J. et al.	Measurement of the inelastic branch of the 14O(alpha, p)17F reaction: Implications for explosive burning in novae and x-ray bursters	Physical Review C 80:042801(R)		
	2009	Petts, A.	Butler, P.A.; Grahn, T.; Blazhev, A.; Bree, N. et al.	Lifetime measurements and Coulomb excitation of light Hg nuclei	AIP Conference Proceedings 1090:414-418 (Capture Gamma-Ray Spectroscopy and Related Topics 13)		
	2009	Muecher, D.	Iwanicki, J.; Jolie, J.; Stefanescu, I.; Van de Walle, J. et al.	Shell structure and shape changes in neutron rich krypton isotopes	AIP Conference Proceedings 1090:587-588 (Capture Gamma-Ray Spectroscopy and Related Topics 13)		
	2009	Sousa, C.D.		Rapid Synthesis of Ordered Manganite Nanotubes by Microwave Irradiation in Alumina Templates	J Nanosc. Nanotech 9, 60		
	2009	Gaulard, C.	et al.	Mass measurements of the exotic nuclides 11Li and 11,12Be performed with the MISTRAL spectrometer	Nucl. Phys. A 826, 1		
	2009	Naidoo, D.	et al.	57Fe Mossbauer Investigations in P-Type Silicon Germanium Single Crystals	Hyp. Int. 188, 11		
	2009	Neidherr, D.	et al.	High-precision Penning-trap mass measurements of heavy xenon isotopes for nuclear structure studies	Phys. Rev. C 80, 044323		
	2009	Mane, E.		An ion cooler-buncher for high-sensitivity collinear laser spectroscopy at ISOLDE	Eur. Phys. J. A 42, 503		
	2009	Minaya-Ramirez, E.	et al.	Neutron drip-line topography	AIP Conf. Proc. 1165, 94		
	2009	Wauters, F.	et al.	A GEANT4 Monte-Carlo Simulation Code for precision í spectroscopy	Nucl. Instrum. Meth. A 609, 156		
	2009	Wauters, F.	et al.	Asymmetry parameter in the decay of 114In	Phys. Rev. C 80, 062501		
	2009	Gunnlaugsson, H.P.	et al.	Isothermal defect annealing in semiconductors investigated by time-delayed Moessbauer spectroscopy: application to ZnO	Interact. 188, 85		
	2009	Stefanescu, I.	et al.	Evidence for a beta-decaying 1/2- isomer in 71Ni	Phys. Rev. C 79, 044325		
	2009	Stefanescu, I.	et al.	Interplay between Single-Particle and Collective Effects in the Odd-A Cu Isotopes beyond N = 40	Phys. Rev. Lett. 100, 112502		
	2009	Johansen, J.		Low Energy Transfer Reactions with 11Be	AIP Conf. Proc. 1165		
	2009	Kramer, J.	et al.	Ground-state spin and magnetic moment of 21Mg	Phys. Lett. B 678, 465		
	2009	Bharuth-Ram, K.	et al.	Mossbauer study of Fe in GaAs following 57Mn+ implantation	Hyp. Int. 119, 115		
	2009	Flanagan, K.T.	et al.	Nuclear Spins and Magnetic Moments of 71,73,75Cu: Inversion of p2p3/2 and p1f5/2 Levels in 75Cu	Phys. Rev. Lett. 103, 142501		
	2009	Mathieu, L.		Delayed neutron emission probability measurements	AIP Conf. Proc. 1175, 285		
	2009	Breitenfeldt, M.	et al.	Penning trap mass measurements of 99-109Cd with the ISOLTRAP mass spectrometer, and implications for the rp process	Phys. Rev. C 80, 035805		
	2009	Koskelo, O.	et al.	Diffusion of cobalt in ion –implanted ZnO	Thin Solid Films 518, 3894		
	2009	Decoster, S.	et al.	Lattice location study of ion implanted Sn and Sn-related defects in Ge	Phys. Lett. B. 81, 155204		
	2009	Sturm, S.	et al.	Investigation of Space-Charge Phenomena in Gas-Filled Penning Traps	AIP Conf. Proc. 1114, 185		
	2009	Muelholt, T.E.	et al.	Temperature and dose dependence of defect complex formation with ion-implanted Mn/Fe in ZnO	Physica B 404, 4820		
	2009	Stora, T.	et al.	Oxide Target Designs for High Primary Beam Intensities for Future Radioactive Ion Beam Facilities	AIP Conf. Proc. 1099, 764		
	2009	Wahl, U.	et al.	Direct evidence for Sb as a Zn site impurity in ZnO	Appl. Phys.Lett. 94, 261901		
	2009	Wahl, U.	et al.	Lattice location of the group V elements As and Sb in ZnO	Physica B 404, 4803		
	2009	Marie-Jeanne, M.		Investigation of the performances of an ECR charge breeder at ISOLDE: A study of the $1^+ \rightarrow N^+$ scenario for the next generation ISOL facilities	PhD Thesis		PhD Universite Joseph Fourier-Grenoble I
IS431	2009	Wauters, F.	Kraev, I.; Tandecki, M.; Traykov, E.; Van Gorp, S. et al.	Performance of silicon PIN photodiodes at low temperatures and in high magnetic fields	Nucl. Instrum. & Meth. A (2009), accepted		
IS450	2009	Koskelo, O.	Raisanen, J.; Tuomisto, F.; Sadowski, J. et al.	The effect of material growth technique on ion implanted Mn diffusion in GaAs.	Semiconductor Science and Technology 24, 045011		
IS449	2009	Sanchez, R.	Zakova, M. et al.	Frequency-Comb-Based Measurements of Lithium and Beryllium Isotopes for Nuclear	Can. J. Phys., in print		

				Structure Studies			
IS360	2009	Mendonca, T.	Odier, P.; Tavares, P.; Correia, J.;Araujo, J. et al.	New Precursor Preparation Method of Single Phase $HgBa_2Ca_2Cu_3O_8$	Accepted to Physica C		
	2009	Madurga, M.	Borge, M.; Alcorta, M.; Fraile, L.; Fynbo, H. et al.	Kinematic identification of the βt branch in the decay of ^{11}Li	Eur. Phys. J. A (2009), in press		
	2009	Madurga, M.	Borge, M.; Alcorta, M.; Fraile, L.; Fynbo, H. et al.	Evidence of the new state in 11Be observed in the 11Li β-decay	Phys. Lett. B (2009), in press		
	2009	Madurga, M.		Beta-decay of the halo nucleus 11Li and its core 9Li	PhD Thesis		PhD Universidad Autonoma de Madrid
	2009	Tengborn, E.		Transfer reactions in inverse kinematics at REX-ISOLDE	PhD Thesis		PhD Chalmers University of Technology
IS411	2009	Schwerdtfeger W.			Phys. Rev. Lett. 103, 012501		
	2009	Blumenfeld, Y.	Butler, P.; Cornell, J.; Fortuna, G.; Lindroos, M.	European Design Study: towards an ultimate ISOL facility for Europe	Int. J. Mod. Phys. E 18, 1960-1964 (2009)		
IS430	2008	Knudsen, H.-H.		Low-energy Nuclear reactions: Exploratory work on ^{11}Be	http://www.phys.au.dk/main/publications/PhD/Hans_Henrik_Knudsen.pdf		
IS414	2008	Schwerdtfeger, W.	et al.	Shape coexistence near the neutron number N=20: First identification of the E0 decay from the deformed 0^+-2 state in 30Mg.	arXiv:0808.0264 [nucl-ex]		
IS417	2008	Madurga, M.	Borge, M.J.G.; Angelique, J.C.; Bao, L.; Bergmann, U. et al.	Study of β-delayed 3-body and 5-body breakup channels observed in the decay of ^{11}Li	Nuclear Physics A, Vol. 810, Issues 1-4, 15 September 2008, Pages 1-12		
IS314	2008	Seewald, G.	Borgmann, D.; Dietrich, M.; Körner. H.-J. et al.	Origin of the magnetic-field dependence of the nuclear spin-lattice relaxation in iron	Phys. Rev. B 77, 104433 (2008)		
IS418	2008	Ekstrom, A.	Cederkall, J.; Fahlander, C.; Hjorth-Jensen, M.; Ames, F. et al.	O+gs->2+1 Transition strengths in ^{106}Sn and ^{108}Sn	Physical Review Letters 101:012502		
IS456	2008	Cocolios, T.	Marsh, B.; Fedosseev, V.; Franchoo, S.; Huber, G. et al.	Resonant laser ionization of polonium at RILIS-ISOLDE for the study of ground- and isomer-state properties	Nuclear Instruments and Methods in Physics Research B266:4403-4406 - EMIS2007		
IS435	2008	Stefanescu, I.	Georgiev, G.; Bree, N.; Cocolios, T.; Diriken, J. et al.	Coulomb excitation of odd-A 67,69,71,73Cu isotopes with MiniBall and REX-ISOLDE	Conf. Proc. 4th International Conf. on Fission and Properties of Neutron-Rich Nuclei, P671		
IS418	2008	Ekstrom, A.	Cederkall, J.; Fahlander, C.; Hjorth-Jensen, M.; Ames, F. et al.	Sub-barrier Coulomb excitation of 106,108,110Sn	AIP conference proceedings1012:296-299 (FINUSTAR2)		
IS411	2008	Kröll, Th.	Behrens, T.; Kruecken, R.; Bildstein, V.; Faestermann, T. et al.	Quadrupole collectivity of neutron-rich nuclei around ^{132}Sn	AIP conference proceedings,1012:84-88 (FINUSTAR2)		
IS469	2008	Patronis, N.	Raabe, R.; Bildstein, V.; Bree, N.; Gernhaeuser, R. et al.	One-nucleon transfer reactions around 68Ni at REX-ISOLDE	AIP conference proceedings 1012:416-418 IFINUSTAR2)		
IS412	2008	Van de Walle, J.	Aksouh, F.; Ames, F.; Behrens, T.; Bildstein, V. et al.	Coulomb excitation of the N=50 nucleus 80Zn	AIP Conference Proceedings 1012:291-295 (FINUSTAR)		
IS433	2008	Kozlov, V.Yu.	Beck, M.; Coeck, P.; Delahaye, P.; Friedag, P. et al.	The WITCH experiment: Acquiring the first recoil ion spectrum	Nucl. Inst. and Meth. In Phys. Res. Section B: Beam interactions with materials and Atoms, Vol. 266, Iss. 19-20, Oct. 2008, Pages 4515-4520		
IS437	2008	Bey, A.		Test du Modele Standard a basse energie: Measure precise des rapports d'embranchement de 62Ga et measure precise de la duree de vie de 38Ca	PhD Thesis		PhD
IS368	2008	Decoster, S.	De Vries, B.; Vantomme, A.; Wahl, U.; Correia, J.G.	Experimental evidence of tetrahedral interstitial and bond-centered Er in Ge	Applied Physics Letters 93 (2008) 141907/1-3		
IS304	2008	Blaum, K.	Geithner, W.; Lassen, J.; Lievens, P.; Marinova, K.; et al.	Nuclear moments and charge radii of argon isotopes between the neutron-shell closures N=20 and N=28	Nucl. Phys. A 799, 30-45(2008)		

Experiments which took beam in 2009-2010

IS413	High precision mass measurements of exotic nuclei with ISOLTRAP
IS414	Advanced Time-Delayed coincidence studies of 31,32Mg from the ß-decays of 31,32Na
IS415	Magnetic Moments of Coulomb Excited 2+1 States for Radioactive Beams of 132, 134, 136Te Isotopes at REX-ISOLDE
IS417	Delayed particle study of neutron rich lithium isotopes
IS418	Coulomb Excitation of Neutron Deficient Sn-Isotopes using REX-ISOLDE
IS427	Nuclear moments and charge radii of magnesium isotopes from N=8 up to (and beyond) N=20
IS430	Study of neutron-rich Be isotopes with REX-ISOLDE
IS432	Diffusion of 52Mn in GaAs
IS433	Search for new physics in beta-neutrino correlations using trapped ions and a retardation spectrometer
IS437	Precision measurement of the half-life and the β-decay Q value of the super-allowed 0+ → 0+ β-decay of 38Ca
IS439	Nuclear moments, spins and charge radii of copper isotopes from N=28 to N=50 by collinear fast-beam laser spectroscopy
IS441	Ultra fast timing measurements at 78Ni and 132Sn
IS442	Diffusive, Structural, Optical, and Electrical Properties of Defects in Semiconductors
IS443	Mössbauer studies of dilute magnetic semiconductors
IS445	Experiments with the newly available Carbon beams at ISOLDE - Resonance scattering and decay studies.
IS447	Along the N=126 closed shell: study of 205Au through its p h11/2-1 isomeric decay
IS449	Nuclear charge radius measurements of radioactive beryllium isotopes
IS450	Diffusion of 56Co in GaAs, ZnO and Si1-xGex systems
IS453	Emission channelling lattice location experiments with short-lived isotopes
IS456	Study of polonium isotopes ground state properties by simultaneous atomic- and nuclear-spectroscopy
IS457	Laser spectroscopy of gallium isotopes using the ISCOOL RFQ cooler
IS459	Further Studies of neutron-deficient Sn-isotopes using REX-ISOLDE
IS460	Magnetic dipole moments of High-K isomeric states in Hf isotopes
IS463	Mass measurements and decay studies on isobarically pure neutron-rich Hg and Tl isotopes
IS464	(n,p) emission channeling measurements on ion-implanted beryllium
IS466	Identification and systematical studies of the electron-capture delayed fission (ECDF) in the lead region - Part I: ECDF of 178,180Tl and 200,202Fr isotopes
IS467	Beta-decay studies of neutron rich 61-70Mn isotopes with the new LISOL beta-decay setup

IS468	Investigation of beam purity after in-trap decay and Coulomb excitation of 62Mn-62Fe
IS469	One Nucleon Transfer Reactions Around 68Ni at REX-ISOLDE
IS471	Collinear resonant ionization laser spectroscopy of rare francium isotopes
IS472	High Resolution optical spectroscopy in isotopically-pure Si using radioactive isotopes: towards a re-evaluation of deep centres
IS473	Search for new candidates for the neutrino-oriented mass determination by electron-capture
IS475	Measurements of octupole collectivity in 220,222Rn and 222,224Ra using Coulomb excitation
IS476	Studies of beta-delayed two-proton emission : The cases of 31Ar and 35Ca
IS478	Shape determination in Coulomb excitation of 72Kr
IS479	Shape coexistence measurements in even-even neutron-deficient Polonium isotopes by Coulomb excitation using REX-ISOLDE and the Ge MINIBALL array
IS480	Charge radii of magnesium isotopes by laser spectroscopy: a structural study over the sd shell
IS481	The role of In in III-nitride ternary semiconductors
IS482	Coulomb excitation of neutron-rich 28,29,30Na nuclei with MINIBALL at REX-ISOLDE: Mapping the borders of the island of inversion
IS484	Ground-state properties of K-isotopes from laser and β-NMR spectroscopy
IS485	Coulomb Excitation of 94,96Kr beam - Deformation in the neutron rich Krypton isotopes
IS486	Crystal field investigations of rare earth doped wide band gap semiconductors
IS487	Study of Local Correlations of Magnetic and Multiferroic Compounds
IS488	Ag(I), Pb(II) and Hg(II) binding to biomolecules studied by Perturbed Angular Correlation of γ-rays (PAC) spectroscopy: Function and toxicity of metal ions in biological systems
IS489	Radiotracer diffusion in semiconductors and metallic compounds using short-lived isotopes
IS490	Masses of noble gases
IS491	Probing the N=50 shell gap near 78Ni
IS492	Defects in ZnO, CdTe, and Si: Optical, structural, and electrical characterization
IS493	Nuclear structure studies of the neutron-rich Rubidium isotopes using Coulomb excitation
IS494	Measurements of competing structures in neutron-deficient Pb isotopes by employing Coulomb excitation
IS498	High-Precision Mass Measurements in the Rare-Earth Region to Investigate the Proton-Neutron Interaction
IS499	Study of the onset of deformation and shape coexistence in 46Ar via the inverse kinematics (t,p) reaction
IS501	Emission Mössbauer spectroscopy of advanced materials for opto- and nano- electronics
IS503	Magnetic dipole moment of the doubly closed-shell plus one proton nucleus 49Sc

I80	Collection of Rb-83 at low implantation energy for KATRIN
I81	Radioactive probe studies of coordination mechanisms of heavy metal ions from natural waters to functionalized magnetic nanoparticles
I83	Tilted-foils polarization at REX-ISOLDE
I87	New insights in Metal-Oxide junctions for nano-electronic applications
I88	BetaNMR as a novel technique for biological applications

Experiments which took beam in April2011- June2012

IS413	High precision mass measurements of exotic nuclei with ISOLTRAP	
IS432	Diffusion of ^{52}Mn in GaAs	
IS433	Search for new physics in beta-neutrino correlations using trapped ions and a retardation spectrometer	
IS441	Ultra fast timing measurements at ^{78}Ni and ^{132}Sn	
IS442	Diffusive, Structural, Optical, and Electrical Properties of Defects in Semiconductors	
IS445	Experiments with the newly available Carbon beams at ISOLDE - Resonance scattering and decay studies.	
IS448	Pb(II) and Hg(II) binding to de novo designed proteins studied by ^{204m}Pb- and ^{199m}Hg-Perturbed Angular Correlation of g-rays (PAC) spectroscopy: clues to heavy metal toxicity	
IS450	Diffusion of ^{56}Co in GaAs, ZnO and $Si_{1-x}Ge_x$ systems	
IS451	Shape coexistence in neutron-rich Sr isotopes: Coulomb excitation of ^{96}Sr	
IS453	Emission channelling lattice location experiments with short-lived isotopes	
IS456	Study of polonium isotopes ground state properties by simultaneous atomic- and nuclear-spectroscopy	
IS457	Laser spectroscopy of gallium isotopes using the ISCOOL RFQ cooler	
IS462	Off-line tests and first on-line installation of the Laser Ion Source Trap LIST – Application for CVC test and CKM unitarity	
IS463	Mass measurements and decay studies on isobarically pure neutron-rich Hg and Tl isotopes	
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IS475	Measurements of octupole collectivity in Rn and Ra using Coulomb excitation	
IS476	Studies of beta-delayed two-proton emission : The cases of 31Ar and 35Ca	
IS477	Approaching the r-processs "waiting point" nuclei below 132Sn: quadrupole collectivity in 128Cd	
IS478	Shape determination in Coulomb excitation of 72Kr	
IS479	Shape coexistence measurements in even-even neutron-deficient Polonium isotopes by Coulomb excitation using REX-ISOLDE and the Ge MINIBALL array	
IS481	The role of In in III-nitride ternary semiconductors	

IS482	Coulomb excitation of neutron-rich 28,29,30Na nuclei with MINIBALL at REX-ISOLDE: Mapping the borders of the island of inversion	
IS483	Measurement of the magnetic moment of the 2+ state in neutron-rich radioactive 72,74Zn using the transient field technique in inverse kinematics	
IS484	Ground-state properties of K-isotopes from laser and β-NMR spectroscopy	
IS485	Coulomb Excitation of 94,96Kr beam - Deformation in the neutron rich Krypton isotopes	
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IS489	Radiotracer diffusion in semiconductors and metallic compounds using short-lived isotopes	
IS490	Masses of noble gases	
IS492	Defects in ZnO, CdTe, and Si: Optical, structural, and electrical characterization	
IS494	Measurements of competing structures in neutron-deficient Pb isotopes by employing Coulomb excitation	
IS495	Study of oblate nuclear shapes and shape coexistence in neutron-deficient rare earth isotopes	
IS496	Study of the effect of shell stabilization of the collective isovector valence-shell excitations along the N=80 isotonic chain	
IS497	Laser Spectroscopy of Cadmium Isotopes: Probing the Nuclear Structure Between the Neutron 50 and 82 Shell Closures	
IS498	High-Precision Mass Measurements in the Rare-Earth Region to Investigate the Proton-Neutron Interaction	
IS500	Collection of Rb-83 at low implantation energy for KATRIN	
IS501	Emission Mössbauer spectroscopy of advanced materials for opto- and nano- electronics	
IS504	Probing the semi-magicity of 68Ni via the 3H(66Ni,68Ni)p two-neutron transfer reaction in inverse kinematics	
IS506	Mapping the boundaries of the seniority regime and collective motion: Coulomb excitation studies of N = 122 isotones 206Po and 208Rn	
IS507	Study of the beta-decay of 20Mg	
IS508	Collinear laser spectroscopy of manganese isotopes using optical pumping in ISCOOL	
IS509	Production and Release of Gas and Volatile Elements from Sodium-based Targets	
IS510	Evolution of the proton-neutron interaction towards Ni-78: Vibrational Structure of Zn-72 and Zn-74	
IS511	Shape coexistence in the lightest Tl isotopes studied by laser spectroscopy	
IS512	Resonance proton scattering of 22Mg and 21Na	
IS514	Diffusion in Intermetallic Compounds Studied Using Short-Lived Radioisotopes	

IS515	Radioactive probe studies of coordination modes of heavy metal ions from natural waters to functionalized magnetic nanoparticles
IS517	Determination of the Magnetic Moment of 140-Pr
IS518	First Study of the Stability of the N=126 Shell Closure
IS524	Coulomb excitation of neutron-rich odd-A Cd isotopes
IS529	Spins, Moments and Charge Radii Beyond 48Ca
IS532	Seeking the Purported Magic Number N = 32 with High-Precision Mass Spectrometry
IS534	Beta-delayed fission, laser spectroscopy and shape-coexistence studies with radioactive At beams
IS537	Properties of neutron-rich hafnium high-spin isomers
IS541	Search for beta-delayed protons from 11Be

I83	Tilted-foils polarization at REX-ISOLDE
I85	Properties of neutron-rich lutetium and hafnium high-spin isomers
I86	Development of astatine ion beams with RILIS
I87	New insights in Metal-Oxide junctions for nano-electronic applications
I121	Innovative radioisotopes for preclinical and clinical studies in nuclear medicine
I131	PAC study of the static and dynamic aspects of an atom inside a fullerene cage
I132	Radioactive Local Probing and Doping on Graphene