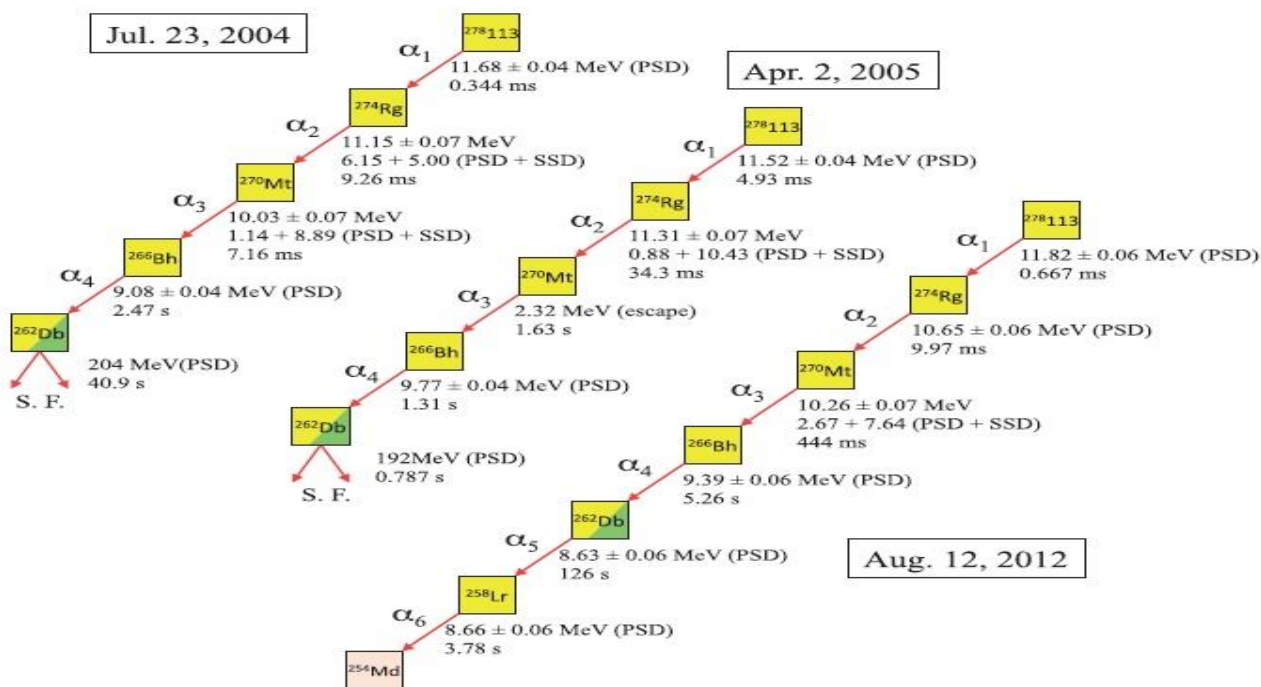
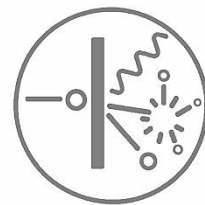


INTDS NEWSLETTER



May 2015
 Volume 39
 Number 1

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COVER PHOTO

Observed decay chain in Nihonium (Element 113) together with previously observed chains (see next page).

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Element 113

Journal of the Physical Society of Japan 81 (2012) 103201

Abstract:

An isotope of the 113th element, i.e., $^{278}113$, was produced in a nuclear reaction with a ^{70}Zn beam on a ^{209}Bi target. We observed six consecutive α -decays following the implantation of a heavy particle in nearly the same position in the semiconductor detector under an extremely low background condition. The fifth and sixth decays are fully consistent with the sequential decays of ^{262}Db and ^{258}Lr in both decay energies and decay times. This indicates that the present decay chain consisted of $^{278}113$, ^{274}Rg ($Z = 111$), ^{270}Mt ($Z = 109$), ^{266}Bh ($Z = 107$), ^{262}Db ($Z = 105$), and ^{258}Lr ($Z = 103$) with firm connections. This result, together with previously reported results from 2004 and 2007, conclusively leads to the unambiguous production and identification of the isotope $^{278}113$ of the 113th element.

LETTER FROM THE EDITOR

Welcome INTDS Membership to a resuscitated Newsletter.

Please excuse the lapse in publication with my apologies. As Editor I have expressed my concerns to the INTDS Board as to whether we, here at ANL, should continue trying to maintain publication. To that end, our colleagues at GSI have generously offered to step forward and help in this regard. My thanks to them and also that the Newsletter would find such a great new home. We are still working out the details and plan to formally announce something with the Board approval at the next Conference, INTDS2018.

The pause in Newsletter appearances was perhaps two-fold; I have hitherto been working alone in my lab and therefore attract a significant target workload which is not easily attained, hence little time to devote to publication. The second cause is a difficult to understand lack of technical contributions from the INTDS Membership. Now, it can be argued that, **IF** the Newsletter was a genuinely thriving and periodic link connecting our Membership **THEN** it would be in a position to attract real technical contributions and other newsworthy items as it had successfully done in the past.

That being said we are now once again publishing the Newsletter to our Membership. In doing so we will most importantly address the current backlog of INTDS Board Approved Minutes (about four years worth). In addition, we have updated the advertisements and include the most recent membership listing. We have been able to accomplish this with the ongoing aid of a Co-operative Student who is eager to help.

We are still in desperate need of Technical Contributions from the INTDS Membership and hope to include some in these forthcoming issues. As Editor of the INTDS Newsletter, I wish to invite any members to submit contributions of general or technical interest for upcoming issues. Our Society Newsletter really should be a vital link within our Membership. In the past it has contained many pertinent articles about target making techniques which otherwise never made it into the Proceedings. In order to keep this a relevant Newsletter we need contributions of a technical nature and therefore I urge everyone to please **CONTRIBUTE!**

For these Newsletter Issues I have again chosen an overarching series of Cover Illustrations depicting the recent IUPAC naming of the newest heavy elements. I hope you enjoy them.

John P. Greene, ANL
Editor

NEWS OF THE INTDS

Minutes of the virtual 2013 INTDS Board meeting 1 October 2013

Invited members of the Board:

Klaus Eberhardt, (ED: 2012-2016)
David Gilliam, (O: 2008 -)
Corresponding Secretary / Treasurer
John Greene, (O: 2012 – 2016)
President / Newsletter Editor
Birgit Kindler, (O: 2010 -) *Recording Secretary*
Bettina Lommel, (ED: 2010-2014)
Dannie Steski (ED: 2012 – 2016)
Ntombi Kheswa (ED: 2012-2016)
Anna Stolarz (O: 2012 – 2016),
Past President / INTDS Database, Webmaster
Stefan Zeisler, (ED: 2010 -2014)
Hasebe Hiroo (ED: 2012-2016)
Atsushi Yoshida, (ED: 2010 – 2014)

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hasebe@riken.jp
ayoshida@ribf.riken.jp

ED: elected director, O: officer

AGENDA

- 1 Approval of minutes of:
 - pre-conference 2012 INTDS Board Meeting on August 19, 2012 (Birgit)
 - INTDS business meeting on August 23, 2012
 - INTDS reviewers meeting
- 2 Reports on the INTDS Financial and Membership status (David)
- 3 Conference 2012 (Klaus, Bettina)
 - Report on the INTDS 2010 Meeting including financial report
 - Proceedings status
- 4 Status of the 2014 Conference, (Atsushi, Hasebe)
 - Status, Budget, Proceedings, etc.
 - Financial situation and support of attendees (in addition to INTDS?)
 - miscellaneous
- 5 Election 2014 (John)
- 6 Status of the INTDS Newsletter (John)
- 7 Report on the web site and INTDS Database (Anna)
- 8 Miscellaneous (Awards, etc.....)
- 9 Closing/Summary

Board Meeting joined by (ordered by date and time of email):
John Greene, Dannie Steski, Stefan Zeisler, Birgit Kindler, Bettina Lommel, Anna Stolarz,
Klaus Eberhardt, Atsushi Yoshida, Hiroo Hasebe, Ntombizonke Kheswa, David Gilliam

Dear INTDS Board Members,

Welcome to those new to the Board!

It is time once again for our virtual off-Conference year (virtual) Board Meeting. I would propose we try to begin October 1, 2013 as a meeting date for the record (one week from today).

Attached please see the preliminary agenda for the meeting. Feel free to add to this agenda items of importance to the Board.

I will include this (revised) agenda again next week when we begin.

Please distribute to the board members the following documents/reports needed for our discussion:

- Birgit - minutes of our meetings at Mainz
- David - Financial and membership status report
- Klaus & Bettina - report on past conference including financial report and status of the proceedings
- Atsushi & Hasebe – status report on upcoming meeting at Riken
- Anna – Report on the Website and INTDS Bibliography
- John – Newsletter report

Some of this material has already been made available (minutes) but perhaps to not all members.

We will also need to convene an Election Committee, consisting of Klaus, Ntombi, Hiroo and Dannie (recently elected) and from them an Election Chairperson.

Please include ALL BOARD MEMBERS in your discussions, (EMAIL – Click: REPLY ALL) Thank you. I would hope to conclude this meeting during October, but since this IS the INTDS it is likely to carry over into November with an end date (FINAL) of November 27, 2013 (our Thanksgiving Holidays)

Let's begin what should be another successful meeting!

Please may I ask all of you to confirm that you received this email as well as the Board Meeting Agenda and that you are willing and you are ready to join the discussions?

John P. Greene
President, INTDS

1. Approval of minutes

The minutes of the pre-conference 2012 INTDS board meeting, of the INTDS business meeting and of the reviewers meetings presented by Birgit were approved with no dissentient.

2. Reports on the INTDS Financial and Membership status (David) (INTDS_10_01_13_memberreport.doc; INTDS_10_10_13_treasreportl.doc)

The INTDS treasurer's report and the INTDS membership report was given by David. The Karasek Fund was not used for some time. It was agreed upon that advertising the availability and conditions of the Fund on the INTDS-web site would be a good idea.

3. Conference 2012 (Klaus, Bettina)

The conference report and the preliminary financial report of the INTDS2012 were presented by Klaus.

Klaus reported on the status of the reviewing process and the proceedings:

- All contributions, as listed in the review status report are accepted and should be available on-line. All authors should have received their personal copy as pdf-file
- The proceedings issue will appear early in 2014
- We have a problem with JRNC regarding the hardcopies or a CD-version we would like to distribute among the conference participants, respectively: JRNC offers an only online access for 20 € per participant or a printed version of the proceedings for 1.000 € per volume!
- Klaus convinced Amares Chatt, who still is in the Editorial Board of JRNC, in a personal conversation to talk again with his colleagues of the Board. Probably they will make an exception and will offer us the opportunity to get a CD-copy of our proceedings for 26 € each. Under these conditions Klaus ordered 130 copies from JRNC but got no official affirmation from JRNC up to the closure of the board meeting.

4 Status of the 2014 Conference

Atsushi-san reports in the name of the organizing committee:

Hotels nearby the conference site

There are five candidates for accommodation:

- Hotel AZUR Takeshiba, Tokyo Bay (preferred by the organizing committee)
- Tokyo Bay Ariake Washington Hotel
- HOTEL SUNROUTE ARIAKE
- Hotel Nikko Tokyo,
- Seaside Hotel Shiba-Yayoi

The locations of the hotels and the contingent of room reservations were discussed. Hiroo-san prepared a google map with all relevant places marked to give the other board members a better impression:

<https://maps.google.co.jp/maps/ms?msid=203478479915361918643.0004e7e3b4d42a5abdc8a&msa=0&ll=35.710838,139.717941&spn=0.393062,0.6427>

After some discussion with the local committee the RIKEN campus was discarded as conference site and the proposals of the local committee for conference site and accommodation were approved by the board and distributed with the 1st circular in October.

1st and 2nd circular were distributed after clearance with the board.

Conference homepage online: <http://ribf.riken.jp/intds2014/>.

A financial estimation for the INTDS2014 is presented by the local committee (file attached).

Proceedings:

Since there are mayor problems with the proceedings of the last INTDS conference in Mainz (see item 2) the journal, in which the proceedings of the INTDS2014 will be published, is still open. In the 2nd circular, distributed in January 2014 it is stated that **“All papers actually presented at the conference and submitted in due time will be published as conference proceedings in a peer reviewed journal.”**

As soon as Klaus gets a formal agreement with JRNC about the proceedings of INTDS2012 the scientific committee of INTDS2014 will contact the new editorial board of JRNC.

5. Election 2014

We have three Directors finishing their terms:

Bettina Lommel
Stefan Zeisler
Atsushi Yoshida

The Nominating Committee was appointed as follows:

Dannie Steski
Klaus Eberhardt
Hiroo Hasebe
Ntombi Kheswa

Dannie has graciously agreed to act as Chairman of this Committee.
You will be required to come up with a slate of candidates for the Board to replace the three expiring terms.

6. Status of the INTDS Newsletter (John)
(Newsletter Editor Report 2013.docx)

The report on the status of the INTDS Newsletter was presented by John.

7. Report on the web site and INTDS Database (Anna)
(2013-Report on the INTDS database and Web Site.doc)

The status of the INTDS web site and the INTDS Database was presented by Anna.

8. Miscellaneous (Awards, etc.....)

Nominations for awards were postponed to a later point.

One other point we should discuss before we close the INTDS meeting is plans for the 2016 conference. It would be nice to have some information to present in Japan about the site for the 2016 conference.

Closing/Summary

I.N.T.D.S. MEMBERSHIP REPORT 1 October 2013

	19 Aug. 2012	1 Oct. 2013
Regular Members	86	87
Emeritus	<u>13</u>	<u>13</u>
Total	99	100

(62 regular members have paid their dues through 2014 or 2016)

Regular Membership by Continent:

East and West Europe	47	47
North American	25	26
Asian	10	10
African	1	1
Australian	2	2
South American	0	0
Middle East	1	1

Respectively submitted,

David M. Gilliam
INTDS Corresponding Secretary/Treasurer

Newsletter Editor Report 2013

To the INTDS Board & Membership,

The last issue of the INTDS Newsletter was published and distributed in an electronic format only via email. There was a short list of recipients you received paper copies (no email address?) The Newsletter will still be regularly posted on the website as a .pdf where one could simply print their own copy. As I heard little feedback on this approach I can assume this was a successful venture and therefore to be continued.

I will strive to publish the next issue before year's end – it should include the First Circular for our 2014 Conference in Riken as well as a Ballot for the 2014 Election.

Again, as Editor of the INTDS Newsletter, I wish to invite you to submit contributions of general or technical interest to the membership for upcoming issues. As of late there has been little outside of our Board Minutes, Awards, and sadly, obituaries which are being published. While these are all valid inclusions, this should not be the sole intent of such a publication. I feel as a Society, the Newsletters really should hold a center place within our Membership. It is a **VITAL** conduit for us between Conferences and, if you look, it has contained in the past many wonderfully rich articles about target making techniques which otherwise never made it into print. We owe it to our fellow & future members to keep this a relevant Newsletter by submitting our tips and treasures so that others don't have to "reinvent the wheel." I urge everyone to please CONTRIBUTE!

Finally, as a reminder, the Newsletter will accept advertisements placed by members, at the discretion of the editor. These ads should be one page in length or less, and must be relevant to target preparation. Please send your contributions to my attention at your earliest convenience, preferably by email. Thank you.

John P. Greene
Editor

Report on the INTDS database and Web Site

Dear Board members

Please forgive delay in submitting this report.

As usually it will be short as there were no major nor minor problems at the period of reporting.

Concerning the Web Site it is updated to the announcement on 27th INTDS conference. The subpage devoted to the conference organised this time by RIKEN, with link to the conference page set at RIKEN server, is created.

As for database I may only report waiting for the 2012 proceedings edition to update our bibliography index.

Best regards
Anna

International Nuclear Target Development Society Conference

October 8th-12th 2018
Michigan State University-FRIB
East Lansing, Michigan, USA

TOPICS:

- Thin films and foils preparation techniques
- Beam charge strippers (foil, liquid, gas, plasma)
- Isotopically enriched and radioactive targets
- Liquid and gas targets
- Targets for high intensity beams
- Target characterization
- Targets for special applications (medical, industrial, controlled fusion)



Scientific Advisory Committee

K. Eberhardt (Germany)
D. Giliam (USA)
J. Greene (USA)
N. Kheswa (South Africa)
B. Kindler (Germany)
H. Kuboki (Japan)
B. Lommel (Germany)
G. Sibbens (Belgium)
D. Steski (USA)
C. Stodel (France)
A. Stolarz (Poland)
Y. Yamazaki (Japan)
S. Zeisler (Canada)

Local Organizing Committee

F. Pellemoine (Chair)
W. Mittig (Co-chair)
M. Avilov
A. Lesage
A. McCausey

Contact:

Email: intds2018@frib.msu.edu

Web: <http://indico.fnal.gov/e/intds2018>



MICHIGAN STATE
UNIVERSITY

OTHER TARGET NEWS

7th High Power Targetry Workshop June 4-8, 2018



TOPICS

- 1- R&D to support concepts
- 2- Radiation damage in target material and related simulations
- 3- Post irradiation examination
- 4- Target design, analysis, validation of concepts
- 5- Target facility challenges
- 6- Construction, fabrication, inspection, quality assurance
- 7- Operation of targets and beam dumps
- 8- Multipurpose use of targets and beam dumps

Scientific Program Committee

C. Boehlert (MSU-CHEMS)	H. Okuno (RIKEN)
M. Calviani (CERN)	B. Riemer (ORNL)
Y. Dai (PSI)	N. Simos (BNL)
C. Densham (STFC/RAL)	C. Stodel (GANIL)
P. Hurh (FNAL)	T. Stora (CERN)
Y. Lee (ESS)	H. Weick (GSI)
N. Mokhov (FNAL)	M. Wohlmuther (PSI)
T. Naoe (JAEA)	

Local Organizing Committee

F. Pellemoine (Chair)
W. Mittig (Co-chair)
M. Avilov
A. McCausey
A. Lesage

Web: <http://indico.fnal.gov/e/hptw2018>
Email: hptw2018@frib.msu.edu

Michigan State University – FRIB
East Lansing, Michigan, USA



MICHIGAN STATE
UNIVERSITY



17 WTTTC

17th Workshop on Targetry and Target Chemistry

August 27th to 31st 2018

Coimbra - Portugal

Dear friends of the WTTTC!

The 17th International Workshop on Targetry and Target Chemistry (WTTTC17) website is officially open.

Save the date

Enroll now! Registrations are limited.

[Registration](#)

Call for papers

To submit your paper go to: [Abstracts](#)

Accomodation

Due to the high number of tourists Portugal is receiving, we advise you to book your accomodations as soon as possible.

We have several hotel options available in Coimbra with a special rates for WTTTC17 participants, more information at [Accommodation](#)

We look forward to welcoming you at WTTTC17 in August 2018!

Francisco Alves
(Chairman)

Notice #85 – May 16, 2018

ORNL Team Recognized for “Extraordinary Effort” in Ru-96 Production Campaign

A team of 11 research staff at the Oak Ridge National Laboratory (ORNL) has been commended by the U.S. Department of Energy (DOE) for their instrumental roles in the campaign to produce the enriched stable isotope ruthenium-96 (Ru-96), last produced in the United States more than 40 years ago. Presented on behalf of Dr. Stephen Binkley, Deputy Director for Science Programs in the Office of Science, these awards express the Department’s appreciation for the tremendous effort that this activity demanded, resulting in a significant capability for the Nation and enabling critical nuclear physics research to move forward.

The newly enriched Ru-96 provided scientists at Brookhaven National Laboratory with a sufficient amount to study the properties of quark-gluon plasma, a new form of matter discovered at the lab’s Relativistic Heavy Ion Collider that has not existed since the infant universe.

The Ru-96 production campaign marked the inaugural effort of the newly commissioned Enriched Stable Isotope Prototype Plant (ESIPP) at ORNL, sponsored by the DOE Isotope Program.

Please join us in congratulating the team on this significant achievement!



ORNL team receives DOE appreciation awards for extraordinary effort in Ru-96 production campaign (Back row, from left: Brian Sparks, Andrew Barclay, Clint Ausmus, Adam Stevenson, and Mike Zach; front row, from left: Kevin Hart, Brian Egle, Derek Byrd, Gerald Mills, Alan Tatum, and David Dean) (Image courtesy of ORNL)