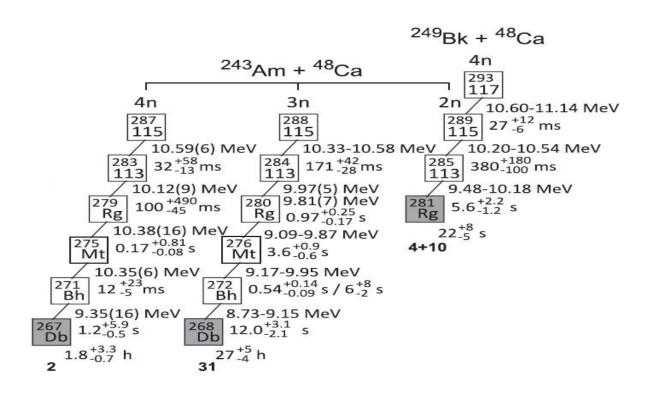
INTDS NEWSLETTER



July 2016 Volume 40 Number 1

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COVER PHOTO

Observed decay chain in Moscovium (Element 115) together with previously observed chains (see next page).

EDITOR
John P. Greene
greene@anl.gov

Element 115

PHYSICAL REVIEW C 87, 014302 (2013)

Abstract:

Results from the production and decay properties of element 115 nuclei observed using the reaction 243Am + 48Ca at various beam energies between November 1, 2010, and February 26, 2012, at the Dubna Gas Filled Recoil Separator are presented. This long-running experiment with a total beam dose of 3.3 × 1019 and carried out in the excitation energy range E * = 31–47 MeV of the 291115 compound nucleus resulted in observation of three isotopes of element 115 with masses 287, 288, and 289. The 28 detected decay chains of 288115 show that this isotope is produced with the maximum probability at E * = 34.0–38.3 MeV with a corresponding cross section of $\sigma 3n = 8.5 + 6.4 - 3.7$ pb. The four events attributed to the isotope 289115 that decays via a short $\alpha \to \alpha \to SF$ chain could be detected only at the lowest excitation energy E * = 31–36 MeV, in accordance with what could be expected for the 2n- evaporation channel of the reaction. The decay characteristics of this nuclide were established earlier (2010) and more recently (2012) in the reaction 249Bk(48Ca,4n)293117 and following α decay to 89115. At the energy E * = 44.8 ± 2.3 MeV we observed only a single long chain of the isotope 287115. The decay properties of nuclei starting at 288115 and 287115 isotopes obtained in the present work reproduce in full the results of the first experiment of 2003 that reported the discovery of elements 115 and 113. The excitation functions of the production of the isotopes of element 115 and observation of the isotope 289115 in cross-bombardment reactions with the targets of 243Am and 249Bk provide additional evidence of the identification of the nuclei of elements 115 and 113. The experiments were carried out using the 48Ca beam of the U400 cyclotron of the Flerov Laboratory of Nuclear Reactions, JINR.

NEWS OF THE INTDS

Pre-Conference 2014 Board meeting, Sunday Morning, 31 August, 2014 Bayside Hotel AZUR

Invited:

Klaus Eberhardt, <u>klaus.eberhardt@uni-mainz.de</u> (0: 2012 - 2016) Vice President David Gilliam, <u>david.gilliam@nist.gov</u> (0: 2008 -) Corresponding Secretary/Treasurer

John Greene, greene@anl.gov (O: 2012 - 2016) President/ Newsletter Editor

Hiroo Hasebe hasebe@riken.jp (ED: 2012-2016) Ntombi Kheswa kheswa@tlabs.ac.za (ED: 2012-2016)

Birgit Kindler, b.kindler@gsi.de (O: 2010 -) Recording Secretary

Bettina Lommel, <u>b.lommel@gsi.de</u> (ED: 2010-2014) Hiroki Okuno, <u>okuno@riken.jp</u> (INTDS14 Chair)

Dannie Steski <u>steski@bnl.gov</u> (ED: 2012-2016) (Assistant Treasurer) Anna Stolarz <u>anna@slcj.uw.edu.pl</u> Past President / INTDS DataBase

Atsushi Yoshida, <u>Ayoshida@riken.jp</u> (*ED: 2010 - 2014*) Stefan Zeisler <u>zeisler@triumf.ca</u>, (*ED: 2010 - 2014*)

ED: elected director, O: officer

AGENDA

Welcome address JPG

1.	Changes/additions to the Agenda	(John)
2.	Minutes of the 2013 virtual INTDS Board Meeting	(Birgit)
3.	INTDS Financial and Membership Status Report	(Dannie)

- 4. Review/Update INTDS By-Laws,
 - a. Assistant Treasurer Position
 - b. Past president term to 4 yrs.?
- 5. Conferences

Status of the 2014 Conference,

a.	Proceedings/Reviewers?	(Hiroki)
b.	Last minute problems, other issues	(Atsushi)
c.	Financial support of attendees	(Atsushi)
А	Approval of speakers and attendees for 27th conference	(Hiroo)

e. Award 2014 handing

Report of the 2012 Conference,

(Bettina)

f. Proceedings (Anna, Bettina)

g. Closing financial report

General,

- h. Publishing (this & future proceedings)
- i. Updating the conference host guidelines
- j. Host and site of the INTDS Conference 2016 (iTHEMBA LABS)

- k. Future Conference site suggestions
- 6. Election 2014 (Nom Com: Klaus, Hiroo, Ntombi, Dannie)

Report of the Nominating Committee for election 2014 (Dannie)

- 7. Status of the INTDS Newsletter (John)
- 8. Status of the web site (Anna)
- 9. INTDS Database (Anna)
- 10. Reviewers List & Paper Assignment mtg. (John)
- 11. Other business
- 12. Closing

Welcome address by INTDS president John Greene

1. Changes/additions to the Agenda

(John)

No changes to the agenda. Klaus Eberhardt and David Gilliam could not attend the conference. Morning session 9 to 12, lunch in the hotel. Afternoon session from 14 to 17. Reception at 17:30.

2. Minutes of the 2013 virtual INTDS Board Meeting

(Birgit)

Minutes were reported by Birgit Kindler and approved by the board.

3. INTDS Financial and Membership Status Report

(Dannie)

Dannie Steski acts as a deputy for David Gilliam, who cannot attend. A permanent deputy position established in the bylaws will be discussed later.

Membership status is essentially stable. Membership details have to be cleared up.

Financial status (August 1st, 2014) has not much changed. The account will be depleted a little bit because of the support for attendees of INTDS2014.

Both reports are attached.

Membership dues are included in the conference fee. It should be made clearer to the members for what purposes membership fees are use. E.g. that new target makers can be supported by the INTDS. The support of attendees is decided by the whole board.

4. Conferences

Status of the 2014 Conference

Overview: Hiroki Okuno san introduces the local committee with their different tasks and the scientific advisory committee.

Excursion, Banquet, RIKEN tour: Hiroo Hasebe reports on the excursions and social events.

Approval of speakers and attendees

Scientific program, speakers, and attendees: Hiroo Hasebe introduces the program. The invited speaker will be introduced by Okuno san. On Thursday there will be parallel sessions. The statistics of the nationalities of contributors and themes of the contributions is presented.

Financial support of attendees: Atsushi Yoshida presents the status. There were 6 applications. One topic was too far away and was asked to withdraw. 4 papers were admitted in due time and accepted. The paper of Katharina Kupka is submitted but not reviewed. The paper is distributed to the board and will be reviewed by the board immediately.

Two attendees are supported by waiving their conference fee. Two contributions are rejected by the LOC because the topics were not fitting in the topics of the INTDS.

Proceedings

Hiroki Okuno reports on the status of the agreement with JRNC. A maximum of 50 papers is allowed to be published. The reviewing process is not already clear. We will have to use the JRNC-system for submitting and reviewing. The number of paper is restricted to 50. We will have to select two reviewers for each paper. The whole reviewing process should be operated in the system.

Three different reviewing processes are discussed. It is agreed that the paper is sent parallel to both assigned reviewers. Last decision in a conflict situation is made by the editor's committee of INTDS that has to be assigned. We already have a list of over 30 reviewers.

Inviting for reviewing:

Gabriel Schaumann

Daniel Stracener - John

Jerzy Szerypo

Robert Eichler - Bettina

Bill Lozowski

Pranab Kumar Saha (Frederique Pellemoine)

Daniela Kiselev (Goedele Sibbens)

Michael Paul - John

Paul Papka

Yoishi Momozaki (? English)

Claude Reed (Argonne) - John

Felix Marti

(Jerry Nolen (no time perhaps))

(Winfried Barth – Bettina asks for recommendation)

This will be cleared up in the meeting on Friday.

- 68 talks will be given but only 50 are allowed to publish. 1 invited talk. Talks without publication, e.g. lab reports can instead go to a newsletter.
- A general announcement according to the hard deadline of 1st of October 2014 and of the hard number of 50 papers will be made at the beginning of the conference and who already knows that it could not work can withdraw in advance.
- The LOC will prepare a list for all participants to ask if their institute has free access to JRNC. Only for the ones who don't have access the 30 € for perpetual access to the proceedings will be paid.

Additionally we will have to ask the other members of INTDS that do not attend the same question via email.

- The JRNC reviewing system will be applied strictly. The reviewing and uploading process has to be completed within 6 month!
- The publishing process by JRNC then will be done within 3 to 4 months.
- The LOC clears up if it's possible to close the uploading by JRNC to a certain date, e.g. 10th of October.
- We will try to assign reviewers from different organizations and countries than the author.

Award 2014 handing

The award this year will go to David Gilliam. It will be handed at the banquet and will be accepted by Anna in substitute. Dannie will take it to David.

Report of the 2012 Conference,

Bettina Lommel gives the address in Klaus Eberhardt' name and presents the financial report and the status of reviewing process. The proceedings are finally in press and the CD's delivered to Klaus in Mainz. When all Proceedings are printed they will be posted from Mainz. Sponsors and the reviewers that are not members or Emeritus members will also get the proceedings.

Future proceedings

We will have a committee to look into a possible candidate for future proceedings.JRNC seems not to be the best for the future. John will start with Stefan Zeisler, Klaus Eberhardt, Anna Stolarz, and Hiroko Okuno. Any member is asked to contribute to this problem. John will announce in the membership meeting and ask for suggestions with Stefan and Anna as contact persons.

Updating the conference host guidelines

Ntombi Kheswa, Hiroo Hasebe, and Birgit Kindler will have a look in the guidelines and update them e.g. regarding who will get the proceedings. Suggestions will be welcome from all.

Future Conference site suggestions

2016 will be in South Africa. 2018 will have to be in the US, so Brookhaven could be a good candidate. Further candidates can be suggested for the future.

5. Review/Update INTDS By-Laws

Assistant Treasurer Position

We will leave this in the moment provisionally and will discuss the point next time.

There is the motion placed to prolong **the Past president term to 4 yrs**.to be consistently with the conference. This will be decided on the membership meeting next week.

6. Election 2014 (Nom Com: Klaus, Hiroo, Ntombi, Dannie)

Dannie Steski reports for the Nominating Committee for election 2014. There are 6 candidates on the list.

The elections will be done at the beginning of the membership meeting so that the counting can be performed directly and the result can be announced at the end of the meeting.

Nominations from the floor are not covered by by-laws, but it is allowed to freely for any member as a write-in candidate. Dannie will clarify that at the beginning of the election.

7. Status of the INTDS Newsletter

John Greene reports on the status of the newsletter. One was published short time ago. The newsletter only goes out electronically, which worked well. More scientific or technical papers should be submitted in future. John would like to have second reader on the papers and will address people in case.

8. Status of the web site and INTDS database

Anna Stolarz reports on the status. She managed to update the bibliography and to reserve the name of the website until 2016.

She proposes to put some reviews of techniques and nuclear targets on the main topics of our society on the website. Also the keywords and link list should be revised.

Suggestions should be sent to Anna. She will send the idea also via the email list.

9. Awards for the future

Suggestions can be sent to John and have to be discussed in the virtual board meeting 2015.

10. Other business

It is discussed to collect all talks but decided against.

11. Closing

I.N.T.D.S. MEMBERSHIP REPORT 31 August 2014

	1 Oct. 2013	31 Aug. 2014	
Regular Members	87		89
Emeritus	<u>13</u>		<u>13</u>
Total	100		102

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

Regular Membership by Continent:

East and West Europe	47	56
North American	26	17
Asian	10	12
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 2014

To the INTDS Board & Membership,

It appears that 2013 went by without my publishing a Newsletter. My apologies for this. I no longer have an assistant which helps tremendously and also have acquired an additional workload involving most of the radiation work in the Physics Division.

The INTDS Newsletter is now being published and distributed in an electronic format ONLY. This helps in getting out issues in a timely manner, saves on postage, and operates more environmentally friendly by avoiding paper copies and envelopes. For those who wish – we still accommodate the regular paper issue – as it appears on the INTDS website as a .pdf where copies may be printed.

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 <u>CONTRIBUTE!</u>

Finally we have tried to get new & current advertisements as well. 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

2014 INTDS MEMBERSHIP MEETING

Friday Morning, 5 September 2014

Agenda

- 1. Membership and financial report status (David Gilliam)
- 2. Board elections (Dannie Steski)
- 3. Minutes of the virtual board meeting in 2013 and pre-conference Board meeting on 31 August 2014 (Birgit Kindler)
- 4. Newsletter Report (John Greene)
- 5. Website/Database (Anna Stolarz)
- 6. Awards
- 7. Miscellaneous
- 8. INTDS venue 2016

Election results and introduction of the all members of the INTDS Board



IN MEMORY OF WILLI HARTMANN



With sadness we announce the death of Willi Hartmann last year..

After his apprenticeship at Merck, Willi Hartmann joined the target laboratory of GSI in Darmstadt on 1st of July 1975 and worked there ever since his early retirement in 2015. For four decades he fabricated targets, backings and stripper for generations of physicists therewith enabling countless experiments and theses. With his tremendous accurateness, his tenacity and his ambition he often made the seemingly impossible possible. With love he cared for

his machines – he knew them inside out, many times teasing out the most of them.

He was a target maker with all his heart; he was a generalist and a specialist at the same time. Inorganic

chemistry and analytics were his greatest passion. Meticulously and with an insatiable desire to increase his knowledge he read papers and reports of other target and thin film laboratories always keeping himself up to date. He was co-author of many papers published in the INTDS proceedings and notes in INTDS

newsletters and was a longtime member of the INTDS.

Additionally, Willi Hartmann was a member of the works council for many years at GSI and committed himself to social issues.

Willi passed away after a long period of illness at the age of 62.

'Willi did it this way!' is still a dictum at the target laboratory at GSI.

INTDS Board Elections 2018

Dear INTDS Member.

The three positions on the INTDS Board of Directors currently held by Bettina Lommel, Hironori Kuboki and Stefan Zeisler are expiring in October 2018. The Nominating Committee Ntombizonke Kheswa, Yoshio Yamazaki and Goedele Sibbens appointed by the president of the INTDS, has the pleasure of presenting a selection of candidates to INTDS members for their consideration. The newly elected Directors will serve on the Board for a period of four years, starting October 2018.

The Nominating Committee presents the names of seven candidates (listed below), however, members are free to vote for any other INTDS Member, if the candidate agrees and can comply with the obligations of a Board Member (see by-laws at www.intds.org). The written agreement signed by the candidate has to be submitted to Goedele Sibbens - chair of the nominating committee - together with the ballot. Additional candidates may also be nominated at the 2018 INTDS conference.

You may vote for up to three (3) candidates.

Ballots with 'Yes' marks for more than three names will be disregarded.

Please bring your ballot to this year's conference in East Lansing.

If you are unable to attend the conference in East Lansing or if you prefer to submit the ballot earlier, please email your completed ballot - *arriving no later than the 4th of October 2018* - to the chairperson of the Nominating Committee (Goedele Sibbens, JRC-Geel, Retieseweg 111, B-2440 Geel, Belgium; goedele.sibbens@ec.europa.eu). If you prefer to vote by e-mail, your signature is not required. Your identification is presented by your e-mail address although a scan of the signed ballot will also be accepted.

Thank you.

Ntombizonke Kheswa, Yoshio Yamazaki and Goedele Sibbens (Chair) Nominating Committee INTDS Board Elections 2018

2018 INTDS Board of Directors Election Ballot

Candidates are listed in alphabetical order (by last name).

Please mark 'Yes' or 'No' for each candidate. You have up to three (3) votes

Name (Institution, Country)	Yes	No
Nicoleta-Mihaela Florea (Horia Hulubei National Institute, Bucharest - Magurele, Romania)		П
Hironori Kuboki (J-PARC Center, KEK, Japan)		
Bettina Lommel (Helmholtzzentrum für Schwerionenforschung, Darmstadt, Germany)		
Paul Morrall (Daresbury Laboratory, United Kingdom)		
Gabriel Schaumann (Institute for Nuclear Physics, Darmstadt, Germany)		
Dorothea Schumann (Paul Scherrer Institute, Villigen, Switzerland)	0	
Dannie Steski (Brookhaven National Laboratory, USA)		
Stefan Zeisler (TRIUMF, Vancouver, Canada)		

If you wish to vote for candidates other than those listed above, please write them in the table below:

Please remember that the total number of candidates you may vote for is three (3)

Name (Institution, Country)		

Please sign and print your name on the ballot and bring it to the INTDS2018 at FRIB in East Lansing or send it by email before the 4th of October 2018 to:

Goedele Sibbens, goedele.sibbens@ec.europa.eu

X	
Date, Signature	Name (capital letters, please)



Michigan State University - Facility for Rare Isotope Beams, East Lansing, USA 2nd Announcement

Dear Colleagues,

We are pleased to provide you more detailed information about the 29th International Conference on Nuclear Target Development, which will be hosted by and will take place at the Facility for Rare Isotope Beams, East Lansing, USA, from October 8th to October 12th, 2018.

The INTDS Conference covers the research and challenges of target development and application, being focused on the recent progress in the area

Scientific program:

Themes for the Conference include:

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

Conference Webpage:

You are invited to visit the conference webpage for more detailed information:

http://indico.fnal.gov/e/intds2018

Feel free to contact us at intds2018@frib.msu.edu if you have any questions

Conference Registration:

The registration is open. Please visit https://indico.fnal.gov/event/15835/registration to register for the INTDS-2018.

Conference Venue:

The conference will be held at the <u>Facility for Rare Isotope Beams</u> (FRIB) located on campus of Michigan State University, East Lansing, Michigan, United States of America. FRIB is a next generation facility for rare isotope science that produces radioactive isotopes for studies in nuclear structure, fundamental interactions, nuclear astrophysics and for many other application.

Travel to East Lansing:

Please visit https://indico.fnal.gov/event/15835/page/3 for detailed traveller information.

Those who need visa to arrive to the US please contact us as soon as possible at intds2018@frib.msu.edu

Lodging:

INTDS Conference 2018 offers special conference rates at the following hotels:

Kellogg Hotel and Conference Center - \$110USD/night + taxes 219 S. Harrison Rd, East Lansing, MI 48824, USA

Residence Inn East Lansing - \$134USD/night + taxes 2841 Hannah Blvd., East Lansing, MI 48823, USA

Price includes complimentary full hot breakfast, fitness, internet, coffee, business center, parking, evening mixer with hors d'oeuvres, beer & wine Mon-Wed, pool, grocery shopping service, electric car charging station. This hotel is also within walking distance of the laboratory.

Please visit https://indico.fnal.gov/event/15835/page/4 to book your accommodation. This page also contains information about nearby hotels. Those who plan to arrive on Saturday, October 6th are strongly advised to make the hotel reservation in advance, since MSU has a football game that day and nearby hotels may be fully booked.

Social event program/Facility tour:

The welcome reception will be held at Wharton Centre, Sunday, October 7th, 2018. The FRIB facility tour is planning on Tuesday, October 9th, 2018. The conference dinner will take place in Detroit on the board of Detroit Princess Cruise Ship, on Wednesday, October 10th, 2018. Social event program includes visiting Henry Ford Museum or Greenfield Village at Dearborn, Michigan. Both excursion are planned on Wednesday, October 10th, 2018, prior to the conference dinner.

Opportunities for Sponsors and Exhibitors

The conference offers great opportunity for the sponsor companies to advertise and exhibit their production. Three levels of sponsorship are available: Promoter level, Distributor level and Exhibitor level Please visit https://indico.fnal.gov/event/15835/page/12 for details.

Financial support

Limited financial support is available from the INTDS to persons attending the conference. A supported person must give a presentation and submit a contribution to the conference proceedings. Please be noted that:

- 1. Membership of INTDS is not required;
- 2. The selection will be made by the INTDS Board;
- 3. The support will not exceed \$1,200 per person and will include the registration fee.

Applicants should complete the application form available at https://indico.fnal.gov/event/15835/page/13 and submit it to intds2018@frib.msu.edu at their earliest convenience. Please be noted that application submission deadline is July 31st, 2018

Conference Fee:

The registration fee for participants is \$600 for early registration and \$650 after early registration deadline. This fee includes welcome reception, conference dinner, excursion, lunch and coffee breaks served at FRIB, conference proceedings and 2-year INTDS membership

Important Dates:

Financial Support Application Deadline	31 July 2018
Financial Support Decision Made by INTDS Board	Mid-August 2018
Abstract Submission Deadline	30 August 2018
Author Notification Deadline	12 September 2018
Early Registration Deadline	21 September 2018
Hotel Reservation Deadline	07 September 2018
Registration Deadline	03 October 2018

Instructions for Authors and Speakers:

The conference format includes general talks and oral contributions selected from the abstracts submitted to the scientific committee. The abstract submission deadline is August 30th, 2018. To submit the abstract please follow the link below:

https://indico.fnal.gov/event/15835/call-for-abstracts/

Speakers are kindly requested to limit their talks to 15 minutes. Additional 5 minutes will be provided for questions/answers.

The manuscript must be submitted at the beginning of the conference.

Scientific Program Committee:

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

Local Organizing Committee:

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

F. Pellemoine (Chair)

We look forward to seeing you in East Lansing!

OTHER TARGET NEWS



Dear friends of the WTTC!

The 17th International Workshop on Targetry and Target Chemistry (WTTC17) 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 accommodations as soon as possible. We have several hotel options available in Coimbra with a special rates for WTTC17 participants, more information at Accommodation

We look forward to welcoming you at WTTC17 in August 2018!

Francisco Alves (Chairman)