

WROCLAW '08

38^{èmes} JdA

38^{èmes} Journées des Actinides



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Programme and Abstracts

Ac Th Pa U Np Pu Am Cm Bk Cf Es Fm Md No Lr

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38^{èmes} Journées des Actinides

12 – 15 April 2008, Wrocław, Poland

preceded by

the 7th School on the Physics and Chemistry of the Actinides

10 – 12 April 2008

organized by

**the Institute of Low Temperature and Structure Research
Polish Academy of Sciences in Wrocław, Poland**

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With support of



ACTINET, European Scientific Network for Actinide Science



**USERLAB, European Commission – Joint Research Centre Institute
for Transuranium Elements**



**European Commission – Joint Research Centre Enlargement and
Integration Action**



COST Action P16 ECOM



Marshal's Office of Lower Silesian Voivodship

Scope

The first meeting of the Journées des Actinides (JdA) took place in the 1970's and soon annual periodicity was established. This conference is a traditional informal actinide forum, including physics, chemistry, and materials research. It regularly brings together experts from fields involved, taking place in a very informal way, emphasizing exchanges and discussions on current issues in actinide science.

While the actinide-related topics are not covered sufficiently at European universities, and in the few cases where they are, the multi-disciplinary context is missing, it is particularly desirable to bring young researchers on the graduate and post-graduate level into this cross-fertilization and brainstorming atmosphere. The decrease of interest of younger generation in science and more particularly in nuclear related matters, the specific constraint in the latter field on safety and security regulations, which lead to the concentration of research activities into specialized institutes, can have a potentially hazardous impact on maintaining information achievements among the young generation of researchers. These facts also strengthen the necessity to have a forum bringing together researchers from such specialized institutions with people (professors and students) from academia, with both sides profiting from such information exchange. Such interaction leads frequently to joint collaborations, exchanges of students, and for many young scientists, JdA is the first international meeting at which they can present and discuss their (preliminary) results in an International Conference environment but in a less formal atmosphere.

Some 12 years ago, a two-days school on "The Physics and Chemistry of the Actinides" (SPCA) started to be organized every second year as a tutorial session to JdA. The previous SPCA was held in 2006 in Oxford prior to the 36^{èmes} Journées des Actinides. In that school, 35 students attended the 16 lectures given by experts in various fields of actinide research.

At the 38^{èmes} Journées des Actinides (38JdA) the following topics on physics and chemistry of the actinides are going to be addressed:

- inorganic and organometallic chemistry;
- strongly correlated behaviour, superconductivity, quantum criticality;
- materials science;
- theory, electronic structure;
- nuclear fuel cycle, environment.

A special session of 38JdA will be a meeting of Working Group 1 "Novel Materials", of the COST Action P16 ECOM ("Emergent Behaviour in Correlated Matter"). This session will cover a wide range of topics in strongly correlated electron systems.

Venue

History

Wrocław, located in the centre of the Silesian Lowland, is one of the oldest cities in Poland. The history of the city of Wrocław begins already in earlier years of the 10th century. At that time the city was limited to the Cathedral Island and bore the name of Vratislavia (after Bohemian duke Vratislav I – "Wrocisław" in Polish and "Prezla" in German). At the end of the 10th century Silesia became part of the Polish state and the first king of Poland, Boleslaw I the Brave, established the town as the first bishopric of Silesia.

The thirteenth century was particularly important in the history of Wrocław. The city, after the Mongol invasion in 1241, was rebuilt and incorporated under the Magdeburg Law in 1261. Upon the childless death of the Piast Duke Henry, the city and the local duchies passed to Bohemian rule under earlier treaties, despite the reconquering efforts of the Polish king Casimir III the Great.

In 1526, after the death of the Bohemian King Louis Jagiellon, Wrocław fell to the Habsburgs, but the city kept a certain level of independence. In 1741, after the assault of Frederic II, the city and most of Silesia were annexed to the Kingdom of Prussia. From that time, the city was called Breslau in German. In 1806 the troops of Napoleon invaded the city and it remained occupied by the French until 1811. Breslau thereafter stayed Prussian until the end of the World War II. Based on the Treaty of Potsdam in 1945, Wrocław went back to Poland.

Today, Wrocław with its population of about 650.000 inhabitants is the capital of the Dolnośląskie Voivodeship (Lower Silesian Voivodeship). It is the economical, cultural and intellectual capital of Lower Silesia. After Warsaw, Wrocław is the second largest financial center in Poland. The city, situated 160 km East of Germany and 120 km North of the Czech Republic, and with the Odra River and the Copernicus International Airport, plays an active role in its burgeoning trade economy, making one of the city's many great transport links. Presently, there are 10 state-run universities (with as many as 150.000 students) and a number of scientific centers, including e.g. Wrocław University, Wrocław University of Technology and Polish Academy of Sciences, etc.

Climate

The climate in Poland is influenced by both continental and maritime climate. Thus, the weather is capricious and sometimes it changes significantly from day to day. However, this does not refer to Wrocław, where the weather is more favourable. With a maritime climate from the west, the Spring starts earlier in Wrocław. In April, it is already pleasantly warm and often very sunny. The average high temperature at that time is about 16⁰C and average low temperature is 5⁰C.

Conference Site

7SPCA will be held at the Institute of Low Temperature and Structure Research, Polish Academy of Sciences in Wrocław. Participants will be partially accommodated in the Hotel Wodnik (located approx. 5 minutes of walk from the Institute) and in guest rooms of the Institute. Lectures will be given in the main Lecture Hall of the Institute.

38JdA will be held at the Hotel Sofitel, which is located in the very center of the Wrocław Old Town (next to the Wrocław Market Square).

Conference Dinner will be organized in the "Piwnica Świdnicka" Restaurant, which is one of the oldest restaurants in Europe (founded in 1273), located in the cellar of the Wrocław City Hall.

Internet access

In Wodnik Hotel free broad band Internet access is provided to every room. During 7SPCA computer room will be organized in the Institute of Low Temperature and Structure Research.

During 38JdA in Sofitel Hotel free hot spot is placed in the proximity of the conference rooms, and additionally two free to use computers in the main hall. Access to the Internet is possible also from the hotel rooms via modem, but it is put on a hotel guest's bill.

Emergency

For medical emergencies, to contact police, firemen or rescue team, please contact the hotel reception or dial 112.

Conference fee

The registration fee for participants includes participation in all scientific activities, book of abstracts, conference materials, accommodation in the Sofitel Hotel on full-board basis, Welcome Reception, Conference Dinner and coffee breaks.

The accompanying person's fee includes accommodation in the Sofitel Hotel on full-board basis, Welcome Reception, Conference Dinner, coffee breaks and social programme.

Additional accommodation, hotel extras (telephones, faxes, mini bar, car park, etc.) are at the expense of participants. All participants are asked to leave their rooms on Tuesday, April 15, before 12.00.

Presentations

In order to facilitate keeping the schedule all speakers at scientific sessions are kindly requested to use the notebook provided by the organizers. Please contact the persons in charge (Wojciech Miiller or Maria Szlawska) in proper advance (preferably during registration or a session before your talk at the latest) to copy your presentation on the conference computer.

The posters to be presented on Sunday evening should be posted up well in advance. All necessary tools needed to proceed with posters will be supplied.

Conference badges

The conference participants are asked to wear their conference badge to enter the conference sessions and social events.

The 38JdA organisers will wear black leashes. Please do not hesitate to ask them for help and information.

38JdA Office

Polish name of the host Institute:

Institut Niskich Temperatur i Badań Strukturalnych Polskiej Akademii Nauk

English name of the host Institute:

Institute of Low Temperature and Structure Research Polish Academy of Sciences

Address of the Institute:

ul. Okólna 2, 50-422 Wrocław, Poland

Address for correspondence:

P Nr 1410, 50-950 Wrocław 2, Poland

Phone number (D. Kaczorowski): +48 71 3435021 ext. 258

Fax number: +48 71 3441029

E-mail address: 38JdA@int.pan.wroc.pl

38JdA website: www.int.pan.wroc.pl/38JdA

Institute website: www.int.pan.wroc.pl

7SPCA Programme

Thursday, 10th April 2008

- 11³⁰–13⁰⁰ Registration
- 13⁰⁰–14⁰⁰ Lunch
- 14⁰⁰–15³⁰ G. H. Lander
“Introduction to the actinides: the beauty of the 5f electrons”
- 15⁴⁵–17¹⁵ G. Zwickangl
“Electron correlations and properties of actinides”
- 17³⁰–19⁰⁰ D. Manara
“Nuclear materials for current and advanced fuel cycles”
- 19³⁰–22⁰⁰ Grill party

Friday, 11th April 2008

- 8³⁰–9³⁰ Z. Gajek
“Crystal field effect in 5f-electron systems”
- 9⁴⁵–11¹⁵ A. B. Shick
“Electronic structure of actinides: a view from correlated band theory (LDA+U, LDA+HIA)”
- 11³⁰–13⁰⁰ P. Rogl
“How to construct and read phase diagrams”
- 13⁰⁰–14⁰⁰ Lunch
- 14⁰⁰–15³⁰ A. P. Gonçalves
“Synthesis and crystal growth of actinide compounds”
- 15⁴⁵–17¹⁵ L. Havela
“Magnetism of light actinides on the landscape of incipient 5f localization”
- 17³⁰–19⁰⁰ J. D. Thompson
“f-Electron superconductivity: a window on strong electron correlations”
- 19³⁰–20³⁰ Dinner

Saturday, 12th April 2008

- 8³⁰–9³⁰ R. Caciuffo
“Neutron and X-ray scattering investigations of actinide materials”
- 9⁴⁵–11¹⁵ T. Durakiewicz
“Introduction to the photoemission spectroscopy of actinides”
- 11³⁰–13⁰⁰ T. Gouder
“Surface reactivity and electronic structure of actinide systems”
- 13⁰⁰–14⁰⁰ Lunch
- 14⁰⁰–15³⁰ P. L. Arnold
“Organometallic chemistry”

38JdA Programme

Saturday, 12th April 2008

17³⁰–19⁰⁰ Registration

19⁰⁰–23⁰⁰ Get together

Sunday, 13th April 2008

9⁰⁰–9¹⁰ Welcome address

9¹⁰–10³⁰ **Session I: PuCoGa₅ and related compounds**
Chairperson: G. H. Lander (4 x 20 min)

9¹⁰–9³⁰ A. Hiess, A. Stunault, E. Colineau, J. Rebizant, F. Wastin,
R. Caciuffo, G. H. Lander
"Polarised neutron experiments investigating the microscopic magnetisation of PuCoGa₅ and NpCoGa₅"

9³⁰–9⁵⁰ N. Magnani, A. Hiess, R. Caciuffo, E. Colineau, F. Wastin,
J. Rebizant, G. H. Lander
"Magnetic excitations in NpCoGa₅"

9⁵⁰–10¹⁰ G. A. Ummarino, N. Magnani, E. Colineau, J.-C. Griveau,
F. Jutier, J. Rebizant, F. Wastin, R. Caciuffo
"Ageing effects on the Pu-based superconductor PuCoGa₅"

10¹⁰–10³⁰ S. Elgazzar, P. M. Oppeneer, R. Jardin, N. Magnani,
J. Rebizant, R. Caciuffo
"Investigation of electronic structure properties of plutonium 218 materials"

10³⁰–11⁰⁰ Coffee break

11⁰⁰–12²⁰ **Session II: Transuranium intermetallics**
Chairperson: K. A. McEwen (4 x 20 min)

11⁰⁰–11²⁰ M. D. Le, K. A. McEwen, E. Colineau, T. Gouder, R. Jardin,
J. Rebizant, F. Wastin
"Bulk measurements and intermediate coupling calculations on PuPd₃"

11²⁰–11⁴⁰ Y. Haga, D. Aoki, Y. Homma, S. Ikeda, T. D. Matsuda,
E. Yamamoto, H. Sakai, N. Tateiwa, N. D. Dung, A. Nakamura,
Y. Shiokawa, Y. Onuki
"New ternary compounds in An-Pd-Al system"

11⁴⁰–12⁰⁰ J.-C. Griveau, K. Gofryk, E. Colineau, J. Rebizant
"Properties of the new family of intermetallics AnPd₅Al₂ (An = Th, U, Np, Pu)"

12⁰⁰–12²⁰ M. Szlawska, K. Gofryk, D. Kaczorowski, J.-C. Griveau,
R. Jardin, E. Colineau, J. Rebizant, R. Caciuffo
"Magnetic, transport and thermal properties of NpNi₂Sn"

12³⁰–14⁰⁰ Lunch

- 15⁰⁰–16²⁰ **Session III: Electronic structure**
Chairperson: T. Durakiewicz (4 x 20 min)
- 15⁰⁰–15²⁰ J. Morkowski, G. Chełkowska, R. Troć, A. Szajek, M. Richter,
C. Neise
"Electronic and magnetic properties of UCu₂Si₂"
- 15²⁰–15⁴⁰ G. Zwicknagl
*"Intra-atomic correlations and the electronic structure
of actinides"*
- 15⁴⁰–16⁰⁰ L. Havela, T. Gouder, F. Huber, A. Shick
"Nature of the 5f states in U-Pu system"
- 16⁰⁰–16²⁰ U. Burkhardt, R. Troć, D. Kaczorowski, Yu. Grin
"X-ray absorption spectroscopy (XAS) on uranium compounds"
- 16²⁰–16⁴⁰ Coffee break
- 16⁴⁰–18⁰⁰ **Session IV: AnTM compounds**
Chairperson: R. Troć (4 x 20 min)
- 16⁴⁰–17⁰⁰ E. Colineau, J. P. Sanchez, F. Wastin, P. Javorský, P. Boulet,
J. Rebizant
*"Tuning the ground state of the AnRhGe system
(An = U, Np, Pu)"*
- 17⁰⁰–17²⁰ W. Müller, V. H. Tran, N. Oeschler, F. Steglich
*"Electronic properties of URhGe ferromagnet probed by Hall
effect and thermopower measurements"*
- 17²⁰–17⁴⁰ M. Samsel-Czekala, E. Talik, R. Troć
*"Electronic structure of magnetic-fluctuation systems URuM
(M = Al, Ga) by ab initio calculations and XPS experiments"*
- 17⁴⁰–18⁰⁰ K. Gofryk, J.-C. Griveau, E. Colineau, R. Jardin, J. Rebizant,
F. Wastin, R. Caciuffo
"Magnetic and related properties of NpPdSn and PuPdSn"
- 18¹⁰–19⁰⁰ USERLAB meeting
- 19⁰⁰–20³⁰ Dinner
- 20³⁰–22⁰⁰ **Poster session I: 38JdA**
Chairperson: A. Szytuła
- Poster session I: COST P16 WG1 Workshop**
Chairperson: A. Ślebarski

Monday, 14th April 2008

- 9⁰⁰–10²⁰ **Session V: Nuclear fuels and wastes management**
Chairperson: N. Dacheux (4 x 20 min)
- 9⁰⁰–9²⁰ M. Cornen, O. Tougait, X. Iltis, M. Pasturel, S. Dubois, H. Noël
"Influence of Si at the interface between γ UMo fuel and Al matrix"
- 9²⁰–9⁴⁰ N. Clavier, N. Hingant, N. Dacheux, S. Hubert, S. Obbade
"Morpholog-controlled precursors for the sintering"
- 9⁴⁰–10⁰⁰ D. A. Zakharyevich, V. A. Burmistrov
"Complex antimonates for nuclear waste management"
- 10⁰⁰–10²⁰ M. Merroun, S. Selenska–Pobell
"Bacteria-actinide interactions: an environmental perspective"
- 10²⁰–10⁵⁰ Coffee break
- 10⁵⁰–12³⁰ **Session VI: Actinide oxides and complex systems**
Chairperson: Yu. Grin (5 x 20 min)
- 10⁵⁰–11¹⁰ Y. Yun, O. Eriksson, P. M. Oppeneer
"Ab initio study of helium behaviour in uranium dioxide"
- 11¹⁰–11³⁰ S. Carretta, N. Magnani, G. Amoretti, R. Caciuffo, A. Hiess,
G. H. Lander, J. Rebizant, P. Santini
"Multipolar order and magnetic dynamics in neptunium dioxide"
- 11³⁰–11⁵⁰ A. Seibert, T. Gouder, F. Huber
"Formation and stability of actinide high oxides"
- 11⁵⁰–12¹⁰ J. Yao, D. Wells, G. H. Chan, H.-Y. Zeng, D. E. Ellis,
R. P. Van Duyne, J. A. Ibers
"Syntheses, structures, and physical properties of some AMUQ₃ compounds"
- 12¹⁰–12³⁰ P. L. Arnold, J. B. Love, D. Patel, C. Wilson
"Reduction and covalent oxo-functionalisation of the uranyl cation"
- 12⁴⁰–14⁰⁰ Lunch
- 15⁰⁰–15²⁰ **After-siesta talk**
G. H. Lander
"The discovery of fission: the role of Lise Meitner"

- 15²⁰–16²⁰ **Session VII: New uranium intermetallics**
 Chairperson: H. Noël (3 x 20 min)
- 15²⁰–15⁴⁰ M. S. Henriques, D. Berthebaud, O. Tougait, H. Noël,
 L. C. J. Pereira, A. P. Gonçalves
*"Magnetic behaviour of a new ternary uranium intermetallic
 U₂Fe₃Ge"*
- 15⁴⁰–16⁰⁰ M. Pasturel, O. Tougait, M. Potel, T. Roisnel, K. Wochowski,
 H. Noël, R. Troć
*"Crystal structure, magnetic and electrical properties of three
 new aluminium rich ternary compounds U₃Ru₄Al₁₂, URu₂Al₁₀
 and URu₃Al₁₀"*
- 16⁰⁰–16²⁰ M. Dias, P. A. Carvalho, O. Tougait, H. Noël, A. P. Gonçalves
"Peritectic Reactions in the U-Fe-B system"
- 16²⁰–16⁵⁰ Coffee break
- 16⁵⁰–18¹⁰ **Session VIII: COST P16 WG1 Workshop**
 Chairperson: P. Rogl (4 x 20 min)
- 16⁵⁰–17¹⁰ A. Shick
"Electronic structure of plutonium chalcogenides"
- 17¹⁰–17³⁰ P. Rogl, O. Sologub, E. Bauer, H. Kaldarar, E. Roaynian,
 A. P. Gonçalves
"A novel superconductor in actinide platinum metal borides"
- 17³⁰–17⁵⁰ A. Andreev
"Magnetic anisotropy of UFe₆Al₆"
- 17⁵⁰–18¹⁰ T. Cichorek, A. Schlechte, R. Niewa, M. Schmidt, R. Ramlau,
 M. Bednarski, Ł. Bochenek, D. Gnida, G. Auffermann,
 Yu. Prots, W. Schnelle, N. V. Kozlova, J. Freudenberger,
 A. Kolomiets, J.-C. Griveau, Z. Henkie, F. Steglich, R. Kniep
*"Low-temperature electrical resistivity of ThAsSe and
 thermo-chemical properties of its non-actinide derivatives"*
- 19³⁰–23⁰⁰ Conference dinner

Tuesday, 15th April 2008

9⁰⁰–10²⁰

Session IX: Advanced preparation and characterization techniques

Chairperson: A. P. Gonçalves

(4 x 20 min)

9⁰⁰–9²⁰

R. Springell, R. C. C. Ward, B. Detlefs, R. A. Cowley,
G. H. Lander, W. G. Stirling, M. R. Wells
"Engineering epitaxial films of uranium"

9²⁰–9⁴⁰

B. Fourest, S. Delpech, A. Maslennikov
"Study of UC oxidation by impedance electrochemical spectroscopy"

9⁴⁰–10⁰⁰

I. Izosimov
"Pu, Np and U determination by chemiluminescence and time resolved pulse laser spectroscopy"

10⁰⁰–10²⁰

A. Merkuskin, A. Ochkin, S. Stefanovsky, O. Stefanovsky
"Leaching of plutonium and americium from murataite ceramics containing simulated actinide/rare earth fraction of high-level waste"

10²⁰–10⁵⁰

Coffee break

10⁵⁰–11²⁰

COST P16 WG1 Members Meeting

Chairperson: P. Rogl

11²⁰–12²⁰

Conference summary

11²⁰–11⁴⁰

Chemistry: W. Suski

11⁴⁰–12⁰⁰

Physics: L. Havela

12⁰⁰–12¹⁰

Announcement on the 39JdA

12¹⁰–12²⁰

Closing

12³⁰–14⁰⁰

Lunch

COST Action P16
Emergent Behaviour in Correlated Matter (ECOM)

Work Group 1 Meeting

Wroclaw, Poland, Tuesday, 15th April 2008

Agenda

- 1) Welcome to the Participants by the Chairman of WG1 and by
Chairman of JdA-2008**
 - 2) Adoption of Agenda**
 - 3) Minutes of last meeting**
 - 4) Report of WG1 Chairman**
 - News from the COST office**
 - Status of WG1**
 - 5) Progress report of working group WG1 members**
 - 6) Publications within WG1**
 - 7) Long-term planning in WG1**
 - 8) Relations and Interrelations of WG1 to other WG's**
 - 9) Short Term Missions from WG1**
 - 10) Framework 7 activities of WG1**
 - 11) Time and place of next meeting**
 - 12) AOB**
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List of Oral Presentations

- 011** A. Hiess, A. Stunault, E. Colineau, J. Rebizant, F. Wastin, R. Caciuffo, and G.H.Lander, *Polarized neutron experiments investigating the microscopic magnetization of PuCoGa₅ and NpCoGa₅.*
- 012** N. Magnani, A. Hiess, R. Caciuffo, E. Colineau, F. Wastin, J. Rebizant, and G.H.Lander, *Magnetic excitations in NpCoGa₅.*
- 013** G.A. Ummarino, N. Magnani, E. Colineau, J.-Ch. Griveau, F. Jutier, J. Rebizant, F. Wastin, and R. Caciuffo, *Ageing effects on the Pu-based superconductor PuCoGa₅.*
- 014** S. Elgazzar, P.M. Oppeneer, R. Jardin, N. Magnani, and J. Rebizant, *Investigation of electronic structure properties of plutonium 218 materials.*
- 021** M. D. Le, K.A. McEwen, E. Colineau, T. Gouder, R. Jardin, J. Rebizant, and F. Wastin, *Bulk measurements and intermediate coupling calculations on PuPd₃.*
- 022** Y. Haga, D. Aoki, Y. Homma, S. Ikeda, T.D. Matsuda, E. Yamamoto, H. Sakai, N. Tateiwa, N.D. Dung, A. Nakamura, Y. Shiokawa, and Y. Ōnuki, *New ternary compounds in An-Pd-Al System.*
- 023** J.-Ch. Griveau, K. Gofryk, E. Colineau, and J. Rebizant, *Properties of the new family of intermetallics AnPd₅Al₂ (An = Th, U, Np, Pu).*
- 024** M. Szlawska, K. Gofryk, D. Kaczorowski, J.-Ch. Griveau, R. Jardin, E. Colineau, J. Rebizant, and R. Caciuffo, *Magnetic, transport and thermal properties of NpNi₂Sn.*
- 031** J.A. Morkowski, G. Chełkowska, R. Troć, A. Szajek, M. Richter, and C. Neise, *Electronic and magnetic properties of UCu₂Si₂ compound.*
- 032** G. Zwicknagl, *Intra-atomic correlations and the electronic structure of actinides.*
- 033** L. Havela, T. Gouder, F. Huber, and A. Shick, *Nature of the 5f states in the U-Pu system.*
- 034** U. Burkhardt, R. Troć, D. Kaczorowski, and Yu. Grin, *X-ray absorption spectroscopy on uranium compounds.*
- 041** E. Colineau, J.P. Sanchez, F. Wastin, P. Javorský, P. Boulet, and J. Rebizant, *Tuning the ground state of the AnRhGe System (An = U, Np, Pu).*
- 042** W. Müller, V.H. Tran, N. Oeschler, and F. Steglich, *Electronic properties of URhGe ferromagnet probed by Hall effect and thermopower measurements.*
- 043** M. Samsel-Czekala, E. Talik, and R. Troć, *Electronic structure of magnetic-fluctuation systems URuM (M = Al, Ga) by ab initio calculations and XPS experiment.*
- 044** K. Gofryk, J.-Ch. Griveau, E. Colineau, R. Jardin, J. Rebizant, F. Wastin, and R. Caciuffo, *Magnetic and related properties of NpPdSn and PuPdSn.*
- 051** M. Cornen, O. Tougait, X. Iltis, M. Pasturel, S. Dubois, and H. Noël, *Influence of Si at the interface between γ UMo fuel and Al matrix.*
- 052** N. Clavier, N. Hingant, N. Dacheux, S. Hubert, and S. Obbade, *Morphology-controlled precursors for the sintering of Th_{1-x}U_xO₂ Oxides.*

- 053** D.A. Zakharyevich and V.A. Burmistrov, *Complex antimonates for nuclear waste management.*
- 054** M.L. Merroun and S. Selenska-Pobell, *Bacteria-actinide interactions: An environmental perspective.*
- 061** Younsuk Yun, O. Eriksson, and P.M. Oppeneer, *Ab-initio study of helium behavior in uranium dioxide.*
- 062** S. Carretta, N. Magnani, G. Amoretti, R. Caciuffo, A. Hiess, G.H. Lander, J. Rebizant, and P. Santini, *Multipolar order and magnetic dynamics in neptunium dioxide.*
- 063** A. Seibert, T. Gouder, and F. Huber, *Formation and stability of actinide high oxides.*
- 064** Jiyong Yao, D. Wells, G.H. Chan, Hui-Yi Zeng, D.E. Ellis, R.P. Van Duyne, and J.A. Ibers, *Syntheses, structures, and physical properties of some AMUQ₃ compounds.*
- 065** P.L. Arnold, J.B. Love, D. Patel, and C. Wilson, *Reduction and covalent oxo-functionalization of the uranyl cation.*
- 000** G.H. Lander, *The discovery of fission: The role of Lise Meitner.*
- 071** M.S. Henriques, D. Berthebaud, O. Tougait, H. Noël, L.C.J. Pereira, and A.P. Gonçalves, *Magnetic behavior of a new ternary uranium intermetallic U₂Fe₃Ge.*
- 072** M. Pasturel, O. Tougait, M. Potel, T. Roisnel, K. Wochowski, H. Noël, and R. Troć, *Crystal structure, magnetic and electrical properties of three new aluminium rich ternary compounds U₃Ru₄Al₁₂, URu₂Al₁₀ and URu₃Al₁₀.*
- 073** M. Dias, P.A. Carvalho, O. Tougait, H. Noël, and A.P. Gonçalves, *Peritectic reactions in the U-Fe-B system.*
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- 084** T. Cichorek, A. Schlechte, R. Niewa, M. Schmidt, R. Ramlau, M. Bednarski, Ł. Bochenek, D. Gnida, G. Auffermann, Yu. Prots, W. Schnelle, N.V. Kozlova, J. Freudenberger, A. Kolomiets, J.-Ch. Griveau, Z. Henkie, F. Steglich, and R. Kniep, *Low-temperature electrical resistivity of ThAsSe and thermo-chemical properties of its non-actinide derivatives.*
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