International Conference on Fast Reactors and Related Fuel Cycles: Challenges and Opportunities FR09

7–11 December 2009
Kyoto, Japan

PROGRAMME

IAEA
International Atomic Energy Agency

CN-176

Organized by the

International Atomic Energy Agency

IAEA

Hosted by the

Japan Atomic Energy Agency

JAEA

In cooperation with the

Japan Atomic Energy Commission
Ministry of Economy, Trade and Industry (Japan)
Ministry of Education, Culture, Sports, Science and Technology (Japan)
Japan Atomic Industrial Forum, Inc.
Wakasa Wan Energy Research Centre (Japan)

Atomic Energy Society of Japan
European Nuclear Society
Institute of Electrical Engineers of Japan
Japan Society of Mechanical Engineers
Korean Nuclear Society

European Commission
OECD Nuclear Energy Agency

Acknowledgement is made to the companies mentioned below which contributed directly towards the local cost of the organization of the conference:

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Toshiba Corporation

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C. Ganguly	IAEA
A. Stanculescu	IAEA
C. Nordborg	OECD/NEA

Track Leaders

Session 1. Innovative fast reactors: objectives and driving forces
J. Rouault, France; J.P. Serpantié, France

Session 2. Fast reactor coolant technology and instrumentation
C. Latgé, France; M. Takeishi, Japan

Session 3. Fast reactor safety: approaches and issues
G.L. Fiorini, France

Session 4. Fast reactor structural materials: achievements and new challenges
C. Fazio, Germany

Session 5. Fast reactor fuel cycles
T. Namekawa, Japan; A. Stanculescu, IAEA

Session 6. Fast reactor analysis: basic data, experiments and advanced simulation
A. Yamaguchi, Japan; A. Siegel, United States of America

Session 7. Advanced fast reactor fuels
T. Mizuno, Japan

Session 8. Improvements in fast reactor components and system design
P. Chellapandi, India

Session 9. Past twenty years with fast reactors and experimental facilities: experience and prospects
T. Takeda, Japan; A. Bychkov, Russian Federation

Session 10. Fast reactor knowledge management, education and training
H. Moriyama, Japan

Local Organizing Committee

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T. Zama	Japan

IAEA Secretariat:

Scientific Secretaries:	A. Stanculescu G. Dyck
Conference Organizers:	M. Khaelss K. Morrison
Editor:	J. Benbow
TC Coordination:	I. Videnovic
Administrative Support:	D. Caron, J. Šegota, C. Czipin

Location of the Conference:

Kyoto International Conference
Center (ICC Kyoto)
Annex Hall and Conference Room B-1
Takaragaike, Sakyo-ku
Kyoto 606-0001 Japan
Tel: (+81-75) 705-1234
Fax: (+81-75) 705-1100

www.icckyoto.or.jp/en/index.html

Working Language: English

Resolutions: No resolutions may be submitted for consideration on any subject; no votes will be taken.

TIMETABLE

Sunday, 6 December 2009

16:00–17:30	Registration	
17:30–19:00	Welcome reception	

Monday, 7 December 2009

07:30	Registration (continued)	
08:20–10:20	Opening Session (Annex Hall)	
10:20–10:30	Break	
10:30–12:10	Plenary Session 1 (Annex Hall)	National and international fast reactor programmes
12:10–13:40	Lunch break	
13:40–15:20	Plenary Session 2 (Annex Hall)	National and international fast reactor programmes (continued)
15:20–15:30	Break	
15:30–16:30	Plenary Session 3 (Annex Hall)	Advanced concepts and coolant technologies
16:30–16:50	Break	
16:50–19:10	Parallel Session 1.1 (Annex Hall)	Innovative fast reactors: objectives and driving forces
16:50–19:10	Parallel Session 2 (Room B-1)	Fast reactor coolant technology and instrumentation

Tuesday, 8 December 2009

08:00–09:00	Plenary Session 4 (Annex Hall)	Safety and materials
09:00–09:10	Break	
09:10–10:30	Parallel Session 3.1 (Room B-1)	Fast reactor safety: approaches and issues
09:10–10:30	Parallel Session 4.1 (Annex Hall)	Fast reactor structural materials: achievements and new challenges
10:30–10:40	Break	
10:40–12:40	Parallel Session 3.2 (Room B-1)	Fast reactor safety: approaches and issues
10:40–12:40	Parallel Session 4.2 (Annex Hall)	Fast reactor structural materials: achievements and new challenges
12:40–14:00	Lunch break	
14:00–15:00	Panel 1 (Annex Hall)	Economics and performance of fast neutron systems: overall reliability of plant and systems and impact of technological improvements
15:00–15:20	Break	
15:20–17:40	Parallel Session 5.1 (Room B-1)	Fast reactor fuel cycles
15:20–17:40	Parallel Session 6.1 (Annex Hall)	Fast reactor analysis: basic data, experiments and advanced simulation
18:10–20:10	Banquet (tickets must have been purchased by 16 November for this event) (Grand Prince Hotel Kyoto, Prince Hall)	

Wednesday, 9 December 2009

08:00–09:50	Plenary Session 5 (Annex Hall)	Fuels and fuel cycles
09:50–10:10	Break	
10:10–12:10	Parallel Session 5.2 (Room B-1)	Fast reactor fuel cycles
10:10–12:10	Parallel Session 7.1 (Annex Hall)	Advanced fast reactor fuels
12:10–12:30	Break	
12:30–14:30	Young Generation Event (Annex Hall)	
14:30–14:50	Break	
14:50–15:50	Poster Session (Annex Hall)	
15:50–16:10	Break	
16:10–19:10	Parallel Session 8 (Room B-1)	Improvements in fast reactor components and system design
16:10–17:30	Parallel Session 7.2 (Annex Hall)	Advanced fast reactor fuels
17:30–19:10	Parallel Session 1.2 (Annex Hall)	Innovative fast reactors: objectives and driving forces

Thursday, 10 December 2009

08:00–09:50	Plenary Session 6 (Annex Hall)	Retrospectives and advanced simulation
09:50–10:10	Break	
10:10–12:30	Parallel Session 6.2 (Annex Hall)	Fast reactor analysis: basic data, experiments and advanced simulation
10:10–11:30	Parallel Session 9 (Room B-1)	Past twenty years with fast reactors and experimental facilities: experience and prospects
11:30-12:30	Parallel Session 5.3 (Room B-1)	Fast reactor fuel cycles
12:30–13:40	Lunch break	
13:40–15:20	Parallel Session 6.3 (Annex Hall)	Fast reactor analysis: basic data, experiments and advanced simulation
13:40–15:00	Parallel Session 10 (Room B-1)	Fast reactor knowledge management, education and training
15:20–15:40	Break	
15:40–16:40	Panel 2 (Annex Hall)	International activities: collaborative programmes, harmonization of prototypes, sharing of facilities and standardization
16:40–16:50	Break	
16:50–17:45	Closing Session (Annex Hall)	

Friday, 11 December 2009

07:30–10:00	Travel to Tsuruga
10:00–12:00	Tsuruga Session
12:00–13:00	Lunch Break
13:00–13:45	Travel to Monju site
13:45–16:45	Monju Tour
16:45–19:30	Travel to Kyoto

Oral presentations
The duration of the oral presentations already include time for discussion. Speakers are requested to make available the following times for discussions:

Presentation type	Presentation length
Keynote (KN)	30 min, includes 5 min discussion
Invited (INV)	20 min, includes 3 min discussion
National and international fast reactor programme (invited) (FRP)	20 min, includes 3 min discussion
Contributed	20 min, includes 3 min discussion

Display of posters
Posters will be on display throughout the conference in the Annex Hall and adjacent lobby. A poster session will be held on Wednesday from 14:50-15:50. Poster authors are requested to be at their posters during coffee breaks Monday to Thursday and during the poster session.

Commercial exhibits
Commercial exhibits will be shown in rooms 103 and 104 and the adjacent corridor from Monday to Thursday.

SUNDAY, 6 DECEMBER 2009

16:00–17:30	**Registration and distribution of conference material**
17:30-19:00	**Welcome reception**

MONDAY, 7 DECEMBER 2009

07:30	**Registration and distribution of conference material (continued)**
08:20–10:20	**OPENING SESSION (Annex Hall)**
Chairpersons:	**S. Tanaka, Japan** **Y. Sokolov, IAEA**

T. Okazaki, Japan
President, JAEA;
Conference General Chair

MEXT representative, Japan
Ministry of Education, Culture, Sports, Science and Technology (MEXT)

Y. Amano, IAEA
Director General, IAEA

S. Kondo, Japan
Chairman,
Japan Atomic Energy Commission

M.P. Comets, France
Commissioner,
Autorité de Sûreté Nucléaire

P. Lyons, United States of America
Principal Deputy Assistant Secretary for Nuclear Energy,
United States Department of Energy

J. Bouchard, France
GIF Chairman and Advisor to the Chairman of Commissariat à l'Énergie Atomique;
Conference General Co-Chair

10:20-10:30	Break

Opening address

Welcome address

Video message

Japan’s nuclear reactor strategy

Safety of fast reactors: the regulator’s approach

Meeting tomorrow’s energy needs

Key challenges and opportunities

10:30–12:10 **PLENARY SESSION 1: National and international fast reactor programmes (Annex Hall)**

Chairpersons: **P. Finck, United States of America**
G. Dyck, IAEA

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
FRP-01	**M. Xu**	China
FRP-02	J. Rouault J.P. Serpantié D. Verwaerde **(presented by: F. Gauché)**	France
FRP-03	**S.C. Chetal** P. Chellapandi P. Puthiyavinayagam S. Raghupathy V. Balasubramanian P. Selvaraj P. Mohanakrishnan B. Raj	India
FRP-04	**K. Hakozaki**	Japan
FRP-05	**J.B. Choi**	Korea, Republic of

12:10–13:40 Lunch break

Title of Paper

Fast reactor development for sustainable nuclear energy supply in China

French R&D program on SFR and the ASTRID prototype

Perspective on development of future SFRs in India

Research and development policy on FBR cycle technology in Japan

Status of fast reactor and pyroprocess technology development in Korea

13:40–15:20 **PLENARY SESSION 2: National and international fast reactor programmes (continued) (Annex Hall)**

Chairpersons: **T. Nagata, Japan**
M.H. Chang, Korea, Republic of

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
FRP-06	**P.G. Schedrovitsky** V.I. Rachkov O.M. Saraev A.V. Zrodnikov V.M. Poplavsky B.A. Vasilyev V.N. Ershov A.V. Bychkov I.A. Shkabura V.N. Leonov	Russian Federation
FRP-07	**P.J. Finck** R.N. Hill	United States of America
FRP-08	**R. Schenkel**	EC
FRP-09	**A. Stanculescu** G. Dyck	IAEA
FRP-10	**T. Dujardin** C. Nordborg Y.J. Choi	OECD/NEA

15:20–15:30 Break

Title of Paper

The program of fast reactor development in Russia

The US advanced fuel cycle program: objectives and accomplishments

Fast reactor research in Europe: the way towards sustainability

IAEA programme on fast reactor, related fuels, and structural materials technology

OECD Nuclear Energy Agency activities related to fast reactor development

15:30–16:30 **PLENARY SESSION 3: Advanced concepts and coolant technologies (Annex Hall)**

Chairpersons: **P. Kumar, India**
Y. Oka, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
KN-01	**J.L. Carbonnier**	France
KN-02	V.M. Poplavsky F.A. Kozlov Yu.I. Orlov **A.P. Sorokin** A.S. Korolkov Yu.Ye. Shtynda	Russian Federation

16:30–16:50 Break

Title of Paper

Advanced and innovative reactor concept designs, associated objectives and driving forces

Liquid metal coolants technology for fast reactors

16:50–19:10 **PARALLEL SESSION 1.1: Innovative fast reactors: objectives and driving forces (Annex Hall)**

Chairpersons: **J.P. Serpantié, France**
K. Aoto, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
01-01	N. Camarcat **J.M. Delbecq** J.F. Sauvage D. Verwaerde P. Berbey	France
01-02	**Y. Sagayama** K. Okada T. Nagata	Japan
01-03	**Y. Kim** D.H. Hahn	Korea, Republic of
01-04	V.M. Poplavsky A.M. Tsybulya Yu.E. Bagdasarov **B.A. Vasilyev** Yu.L. Kamanin S.L. Osipov N.G. Kuzavkov V.N. Yershov M.R. Ashirmetov	Russian Federation
01-05	V.M. Poplavsky A.M. Tsyboulya **Yu.S Khomyakov** V.I. Matveev V.A. Eliseev A.G. Tsykunov B.A. Vasiliev S.B. Belov M.R. Farakshin	Russian Federation
01-06	**D.H. Hahn** C.M. Kang E.P. Loewen E.F. Saito	Korea, Republic of
01-07	**K. Aoto** S. Kotake N. Uto T. Ito M. Toda	Japan

Title of Paper

Sodium fast breeder reactor development: EDF's point of view

Progress on reactor system technology in the FaCT project toward the commercialization of fast reactor cycle system

Advanced SFR concept design studies at KAERI

Advanced fast sodium reactor power unit concept

Cores and fuel cycle of the perspective fast sodium-cooled reactor

Advanced SFR concept based on PRISM and KALIMER

JSFR design study and R&D progress in the FaCT project

16:50–19:10 **PARALLEL SESSION 2:**
Fast reactor coolant technology and instrumentation
(Conference Room B-1)

Chairpersons: **C. Latgé, France**
M. Takeishi, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
02-01	R. Ganesan **V. Jayaraman** S. Rajan Babu R. Sridharan T. Gnanasekaran	India
02-02	**C. Latgé**	France
02-03	**S. Eckert** D. Buchenau G. Gerbeth F. Stefani F.P. Weiss	Germany
02-04	C. Ito Y. Araki K. Okazaki H. Naito K. Watanabe N. Takegawa H. Harano T. Iguchi **T. Aoyama**	Japan
02-05	F. Baqué **G. Rodriguez** N. Jardin J.M. Carpeau J.M. Augem J. Sibilo	France
02-06	**K. Tsukimori** M. Ueda S. Miyahara T. Yamashita	Japan
02-07	**T. Ashida** K. Imaizumi S. Maeda M. Takamatsu T. Sekine A. Nagai Y. Maeda	Japan

Title of Paper

Behaviour and monitoring of non-metallic impurities in liquid sodium

Sodium quality control; French developments from Rapsodie to EFR

Some recent developments in the field of liquid metal measuring techniques and instrumentation

Development of high sensitive and reliable FFD and sodium leak detection technique for fast reactor using RIMS

Challenges and R&D program for improving inspection of sodium cooled fast reactors and systems

R&D on Maintenance Technologies for FBR plants in JAEA - The status quo and the future plan

Restoration work for obstacle and upper core structure in reactor vessel of experimental fast reactor Joyo

TUESDAY, 8 DECEMBER 2009

08:00–09:00 **PLENARY SESSION 4: Safety and materials (Annex Hall)**

Chairpersons: **M. Xu, China**
M. Saito, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
KN-03	**R. Nakai**	Japan
KN-04	**B. Raj** T. Asayama C. Fazio	India

09:00–09:10 Break

Title of Paper

Design and assessment approach on advanced SFR safety with emphasis on core disruptive accident issue

Structural materials: new challenges, manufacturing and performance

09:10–10:30 **PARALLEL SESSION 3.1:**
Fast reactor safety: approaches and issues
(Conference Room B-1)

Chairpersons: **P. Mohanakrishnan, India**
R. Nakai, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
03-01	S. Beils B. Carluec **N. Devictor** G.L. Fiorini J.F. Sauvage	France
03-02	**R.A. Wigeland** J.E. Cahalan	United States of America
03-03	**I. Slessarev** P. Alekseev	Russian Federation
03-04	**V. Kuznetsov**	IAEA

Title of Paper

Safety for the future sodium cooled fast reactors

Mitigation of sodium-cooled fast reactor severe accident consequences using inherent safety principles

Ways to the nuclear power renaissance and vital risk free fast reactors

Design features to achieve defence-in-depth in small and medium sized reactors

09:10–10:30 **PARALLEL SESSION 4.1: Fast reactor structural materials: achievements and new challenges (Annex Hall)**

Chairpersons: **G. Müller, Germany**
T. Otani, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
04-01	**J.T. Busby**	United States of America
04-02	**G. Müller** A. Weisenburger A. Heinzel A. Jianu	Germany
04-03	**A. Povstyanko** V. Prokhorov A. Fedoseyev F. Krykov	Russian Federation
04-04	**S.H. Kim** C.B. Lee D.H. Hahn	Korea, Republic of

10:30–10:40 Break

Title of Paper
Advanced materials for nuclear reactor systems: alloys by design to overcome past limitations
Pulsed e-beam modified FeCrAlY corrosion barriers for future fast reactor systems
EP-450 Steel as cladding material for fuel rods for fast neutron reactors
Development of SFR fuel cladding tube materials

10:40–12:40 **PARALLEL SESSION 3.2: Fast reactor safety: approaches and issues (Conference Room B-1)**

Chairpersons: **P. Chellepandi, India**
H. Endo, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
03-05	**G.L. Fiorini** T.J. Leahy	France
03-06	**N. Nakae** T. Baba K. Kamimura	Japan
03-07	**K. Haga** H. Endo T. Nakajima T. Ishizu	Japan
03-08	E.E. Morris **W.M. Nutt**	United States of America
03-09	V.M. Poplavsky V.I. Matveev V.A. Yeliseev I.A. Kuznetsov A.V. Volkov M.Yu. Semenov Yu.S. Khomyakov A.M. Tsibulya **(presented by: Yu.Ye. Shvetsov)**	Russian Federation
03-10	**S. Kubo** Y. Shimakawa H. Yamano S. Kotake	Japan

Title of Paper
Generation IV International Forum Risk and Safety Working Group: Terms of reference, accomplishments, current activities & perspectives
Basis of technical guideline for FBR fuel safety evaluation in JNES
Development of integrated analytical tools for level-2 PSA of LMFBR
Uncertainty analysis for unprotected loss-of-heat-sink, loss-of-flow, and transient-overpower events in sodium-cooled fast reactors
Sodium void reactivity effect influence on the prospective fast neutron reactor safety and concept approaches
Safety design requirements for safety systems and components of JSFR

10:40–12:40 **PARALLEL SESSION 4.2: Fast reactor structural materials: achievements and new challenges (Annex Hall)**

Chairpersons: **T. Asayama, Japan**
J. Busby, United States of America

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
04-05	**N. Isobe** N. Kawasaki M. Ando M. Sukekawa	Japan
04-06	**K. Fukumoto** H. Matsui N. Akasaka I. Yamagata	Japan
04-07	**K. Natesan** M. Li S. Majumdar R.K. Nanstad T.L. Sham	United States of America
04-08	**O. Ancelet** M.N. Berton M. Blat F. Dalle P. Dubuisson O. Gelineau Y. Lejeail	France
04-09	**V.S. Ageev** Yu.P. Budanov A.G. Ioltuhovskiy M.V. Leontyeva-Smirnova N.M. Mitrofanova A.V. Tselishchev I.A. Shkabura	Russian Federation
04-10	**T. Asayama** Y. Nagae T. Wakai M. Inoue T. Kaito S. Otuka N. Kawasaki M. Morishita	Japan

12:40-14:00 Lunch break

Title of Paper
Experimental investigation of strain concentration evaluation based on the stress redistribution locus method
Microstructural effect of solute addition for Fe-15Cr-20Ni steels irradiated in Joyo
Materials and code qualification needs for sodium-cooled fast reactors
Analysis of the optimization of the secondary hot piping for a sodium fast reactor
Structural materials for Russian fast reactor cores: Status and prospects
Development of structural materials for JSFR - overview and current status

14:00–15:00	**PANEL 1:** **Economics and performance of fast neutron systems: overall reliability of plant and systems and impact of technological improvements (Annex Hall)**
Chairperson:	**C.S. Kang, Korea, Republic of**
Panellists:	**N. Camarcat, France** **T.K. Mitra, India** **K. Okada, Japan** **V. Kagramanyan, Russian Federation**
15:00–15:20	Break

15:20–17:40 **PARALLEL SESSION 5.1:**
Fast reactor fuel cycles
(Conference Room B-1)

Chairpersons: **T. Namekawa, Japan**
V. Usanov, IAEA

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
05-01	A.V. Bychkov **M.V. Kormilitsyn** P.P. Poluectov V.S. Kagramanyan Yu.S. Khomyakov P.N. Alexeyev A.Yu. Kuznetsov	Russian Federation
05-02	**H. Funasaka** T. Koyama T. Namekawa T. Nagata	Japan
05-03	**C. Poinssot** D. Warin C. Rostaing	France
05-05	**W. Nakazato** K. Ikeda R.A. Kochendarfer S. Kunishima	Japan
05-06	**T. Taiwo** S. Bays A. Yacout E. Hoffman M. Todosow T. Kim M. Salvatores	United States of America
05-07	**L. Boucher** C. Coquelet M. Meyer R. Girieud P. Barbrault C. Garzenne D. Greneche I. Hablot T. Duquesnoy M. Caron-Charles B. Carlier J.C. Lefèvre	France

Title of Paper
Strategies and national programs of closed fuel cycles: Russian vision
Development of FBR fuel cycle technology in Japan
Recent progress in advanced actinide recycling processes
Enhancing Minor Actinide Transmutation in ARR
U.S. Study on impacts of heterogeneous recycle in fast reactors on overall fuel cycle
Homogeneous versus heterogeneous transmutation in sodium cooled fast reactors: comparison on scenario studies

15:20–17:40 **PARALLEL SESSION 6.1:**
Fast reactor analysis: basic data, experiments and advanced simulation (Annex Hall)

Chairpersons: **K. Sugiyama, Japan**
K. Mikityuk, Switzerland

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
06-01	**K. Sugiyama** Z. Zhang	Japan
06-02	**K. Litfin** A. Batta A. G. Class T. Wetzel R. Stieglitz	Germany
06-03	**Yu.M. Ashurko** G.P. Pugachev	Russian Federation
06-04	**R. Kato** H. Saito H. Ota K. Kimura	Japan
06-05	G. Palmiotti **M. Salvatores** M.Assawaroongruengchot	France
06-06	**J.M. Ruggieri** J.F. Lebrat J. Tommasi P.A Archier	France
06-07	**T. Takeda** W.F.G. van Rooijen	Japan

18:10–20:10 Banquet (tickets must have been purchased by 16 November 2009 for this event)

Title of Paper

Thermal and hydrodynamic fragmentation of a single molten stainless steel droplet penetrating sodium pool

Flow distribution and turbulent heat transfer in a hexagonal rod bundle experiment

Phenomenon of local natural circulation in a circuit of nuclear power plant

The R&D test plan using sodium test loop for development of the 4S

Nuclear data for innovative fast Reactors: Impact of uncertainties and new requirements

JEFF-3.1.1 Nuclear data validation for sodium fast reactors

Sensitivity coefficients for fast reactor core analysis

Location: Grand Prince Hotel Kyoto, Prince Hall

WEDNESDAY, 9 DECEMBER 2009

08:00–09:50 **PLENARY SESSION 5: Fuels and fuel cycles (Annex Hall)**

Chairpersons: **J.M. Delbecq, France**
K. Mishima, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
INV-01	**T. Mizuno**	Japan
INV-02	V.M. Poplavsky **L.M. Zabudko** I.A. Shkaboura M.V. Skupov A.V. Bychkov V.A. Kisly F.N. Kryukov	Russian Federation
INV-03	**K.O. Pasamehmetoglu**	United States of America
INV-04	**J. Somers** P. Anzieu J.M. Bonnerot E. D'Agata F. Klaassen R. Hania	EC
KN-05	**S. Tanaka**	Japan

09:50-10:10 Break

Title of Paper
Fast reactor fuel development in Japan
Fuels for advanced sodium cooled fast reactors in Russia: state-of-art and prospects
Advanced fuels for fast reactors
Fast reactor fuel programmes in Europe
Recycle strategies for fast reactors and related fuel cycle technologies

10:10–12:10 **PARALLEL SESSION 5.2:**
Fast reactor fuel cycles
(Conference Room B-1)

Chairpersons: **H. Funasaka, Japan**
V. Kagramanyan, Russian Federation

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
05-08	**F. Gabrielli** V. Romanello M. Salvatores A. Schwenk-Ferrero W. Maschek	Germany
05-09	**A. M. Yacout** T. A. Taiwo C. J. Jeong U. Laüferts	United States of America
05-10	**A. Baschwitz** C. Loaëc J. Fournier M. Delpech	France
05-11	B. Raj A. Vasile V. Kagramanian M. Xu R. Nakai Y.I. Kim **V. Usanov**	IAEA
05-12	A. V. Zrodnikov V. S. Kagramanyan **A. N. Chebeskov** E.V. Poplavskaya	Russian Federation
05-13	**P. Kumar** S. Narasimhan	India

Title of Paper
Advanced fuel cycles and fast reactor flexibility
Multi-regional transitional strategies towards fast reactor based nuclear energy systems
GEN-IV deployment: long term-prospective
Assessment of compatibility of a system with fast reactors with sustainability requirements and paths to its deployment
International nuclear fuel cycle centers in global nuclear power infrastructure
Security and control of nuclear material in PFBR

10:10–12:10 **PARALLEL SESSION 7.1: Advanced fast reactor fuels (Annex Hall)**

Chairpersons: **T. Mizuno, Japan**
L. Zabudko, Russian Federation

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
07-01	**D. Haas** J.P. Glatz R.J.M. Konings V.V. Rondinella J. Somers	EC
07-02	**F. Varaine** G. Rimpault G. Mignot L. Paret A. Zaetta J. Rouault	France
07-03	**O.N. Nikitin** F.N. Kryukov S.V. Kuzmin B.D. Rogozkin Yu.A. Ivanov L.M. Zabudko I.S. Kurina B. Syriac J. Noirot	Russian Federation
07-04	**J.P. Panakkal** H.S. Kamath	India
07-05	A.V. Bychkov A.A. Mayorshin O.V. Skiba **V.A. Kisly** O.V. Shishalov M.V. Kormilitsyn Yu.M. Golovchenko	Russian Federation
07-06	**M. Kato** K. Maeda T. Ozawa M. Kashimura Y. Kihara	Japan

12:10-12:30 Break

Title of Paper

Fast neutron reactor fuel cycle research programme at the Joint Research Centre

Comparative review on different fuels for GEN-IV sodium fast reactors: merits and drawbacks

Results of post-irradiation examinations of inert matrices fuels irradiated in BOR-60 reactor up to 19 at% of burnup in frame of Russian-French BORA-BORA experiment

Fabrication and quality control of MOX fuel for prototype fast breeder reactor (PFBR)

Vibropac MOX - fuel for fast reactors - experience and prospects

Development of Np and Am bearing MOX fuels for Japan sodium cooled fast reactors

12:30–14:30	**YOUNG GENERATION EVENT (YGE): "Development and deployment of fast reactor technology to meet global nuclear energy sustainability requirements: a challenge for the young generation" (Annex Hall)**
Chairperson:	**H. Moriyama, Japan**
Moderator:	**H. Torii, Japan**
Speakers:	**V.V. Orlov, Russian Federation** **T. Ito, Japan**
Panellists:	**L. Ren, China** **Y. Liu, China** **S. Beils, France** **F. Gabrielli, Germany** **A. Tagawa, Japan** **W.J. Chang, Korea, Republic of** **K.L. Lee, Korea, Republic of** **S. Poglyad, Russian Federation** **W.D. Pointer, United States of America** **E. Hourcade, EC**
14:30-14:50	Break
14:50-15:50	Poster session (Annex Hall)
15:50-16:10	Break

Nuclear power based on fast reactors: scientific idea, early experience, new start
Important matters in realizing commercial FBR cycle

16:10–19:10 **PARALLEL SESSION 8:**
Improvements in fast reactor components and system design
(Conference Room B-1)

Chairpersons: **N. Kasahara, Japan**
K. McCarthy, United States of America

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
08-01	**P. Chellapandi** P. Puthiyavinayagm V. Balasubramanian S. Ragupathy V. Rajanbabu S.C. Chetal B. Raj	India
08-02	B.A. Vasilyev Yu.L. Kamanin V.V. Gladkov V.N. Bartenev **S.F. Shepelev** N.G. Kuzavkov V.V. Denisov V.I. Karsonov	Russian Federation
08-03	**N. Kasahara** K. Sato K. Tsukimori N. Kawasaki	Japan
08-04	**M. Chassignet** S. Dumas C. Majot G. Prèle G. Rodriguez E. Sanseigne	France
08-05	M.K. Birznek B.S. Chatskiy **Y.A. Bovsha**	Russian Federation
08-06	**S. Fujiwara** R. Aizawa Y. Oyamatsu M. Funato K. Katsuki H. Ota	Japan

Title of Paper

Design concepts for reactor assembly components of 500 MWe future FRs

Fast neutron reactor plant equipment upgrading

Development of elevated temperature structural design methods to realize compact reactor vessels

Challenges and innovative technologies on fuel handling systems for future sodium cooled fast reactors

Prospects for improvement of supporting systems of BN reactors based on BN-600 and BN-800 engineering experience

Development of a large diameter electromagnetic pump and a back-up power supply system for the 4S

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
08-07	**T. Handa** Y. Oda Y. Ono K. Miyagawa I. Matsumoto K. Shimoji A. Ide H. Ishikawa H. Hayafune	Japan
08-08	**Y. Chikazawa** S. Kotake S. Sawada	Japan
08-09	**H. Yamano** M. Tanaka A. Ono T. Murakami Y. Iwamoto K. Yuki H. Sago S. Hayakawa	Japan

Research and development for the integrated IHX/pump

Comparison of pool/loop configurations in the JAEA fast reactor feasibility study

Unsteady elbow pipe flow to develop a flow-induced vibration evaluation methodology for JSFR

16:10–17:30 **PARALLEL SESSION 7.2: Advanced fast reactor fuels (Annex Hall)**

Chairpersons: **T. Fukasawa, Japan**
J. Somers, EC

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
07-07	**R.N. Jayaraj**	India
07-08	**B.O. Lee** J.S. Cheon H.J. Ryu J.H. Kim S.W. Yang C.B. Lee	Korea, Republic of
07-09	H. Ohta **T. Ogata** D. Papaioannou M. Kurata T. Koyama J.P. Glatz V. Rondinella	Japan
07-10	**T.K. Kim** C. Grandy R.N. Hill	United States of America

Title of Paper
Manufacture of core sub-assemblies and fertile fuel assemblies for Indian fast breeder programme
Performance evaluation of metallic fuel for SFR
Development of minor actinide-containing metal fuels
Carbide and nitride fuels in Advanced Burner Reactor

17:30-19:10 **PARALLEL SESSION 1.2: Innovative fast reactors: objectives and driving forces (Annex Hall)**

Chairpersons: **B. Riou, France**
M. Kobayashi, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
01-08	**A. Alemberti** J. Carlsson E. Malambu A. Orden L. Cinotti D. Struwe P. Agostini S. Monti	Italy
01-09	A.V. Zrodnikov **G.I. Toshinsky** O.G. Komlev V.S. Stepanov N.N. Klimov A.V. Kudryavtseva V.V. Petrochenko	Russian Federation
01-10	J.C. Garnier J.Y. Malo F. Bertrand P. Anzieu **(presented by: N. Devictor)**	France
01-11	**M. Konomura** M. Ichimiya K. Mukai	Japan
01-12	**B. Riou** D. Verwaerde S. Aniel	France

Title of Paper

ELSY - The European lead fast reactor

SVBR-100 module-type fast reactor of the IV Generation for regional power industry

Recent progress of gas fast reactor program

Future R&D programs using Monju

Design features of advanced sodium cooled fast reactors with emphasis on economics

THURSDAY, 10 DECEMBER 2009

08:00–09:50 **PLENARY SESSION 6:**
Retrospectives and advanced simulation
(Annex Hall)

Chairpersons: **T. Takeda, Japan**
A. Zrodnikov, Russian Federation

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
INV-05	**J.F. Sauvage** G. Préle L. Martin	France
INV-06	S.C. Chetal P. Kumar **P. Chellapandi**	India
INV-07	**K. Ito** T. Yanagisawa	Japan
INV-08	A.V. Zrodnikov V.M. Poplavsky **Yu.M. Ashurko** O.M. Saraev N.N. Oshkanov M.V. Bakanov B.A. Vasilyev Yu.L. Kamanin V.N. Ershov M.N. Svyatkin A.S. Korolkov Yu.M. Krasheninnikov V.V. Denisov	Russian Federation
KN-06	**A. Siegel**	United States of America

09:50-10:10 Break

Title of Paper

The French SFR operating experience

The last twenty years experience with fast reactors; Lessons learnt and perspective

Last twenty years experiences with fast reactors in Japan

Experience gained in Russia on sodium cooled fast reactors and prospects of their further development

Advanced simulation for fast reactor design

10:10–12:30 **PARALLEL SESSION 6.2: Fast reactor analysis: basic data, experiments and advanced simulation (Annex Hall)**

Chairpersons: **A. Yamaguchi, Japan**
M. Smith, United States of America

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
06-08	**K. Mikityuk**	Switzerland
06-09	**T.J. Tautges**	United States of America
06-10	V.M. Poplavsky I.A. Kuznetsov **Yu.Ye. Shvetsov** A.V. Volkov Yu.M. Ashurko M.V. Kashcheev L.A. Shchekotova G.A. Kunzio	Russian Federation
06-11	**M.A. Smith** D. Kaushik A. Wollaber W. S. Yang B. Smith	United States of America
06-12	**J.M. Ruggieri** J.F. Lebrat J. Tommasi P. Archier	France
06-13	**A. Rineiski** M. Ishikawa J. Jang P. Mohanakrishnan T. Newton G. Rimpault A. Stanculescu V. Stogov	Germany
06-14	**T. Nakajima** H. Endo T. Yokoyama	Japan

Title of Paper
Review of the recent FAST project activities related to GEN-IV fast reactors
Coupled multi-physics simulation frameworks for reactor simulation: A bottom-up approach
Computational software package for analyzing the fast neutron reactor safety: Its improvement and development prospects
Neutronics code development at Argonne National Laboratory
Status of ERANOS-2 code system validation for sodium fast reactor applications
Benchmark analyses for BN-600 MOX core with minor actinides
Analysis of core physics test data and sodium void reactivity worth calculation for Monju core with ARCADIAN-FBR computer code system

10:10–11:30 **PARALLEL SESSION 9:**
Past twenty years with fast reactors and experimental facilities: experience and prospects (Conference Room B-1)

Chairpersons: **T. Aoyama, Japan**
A. Bychkov, Russian Federation

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
09-01	**P.J. D'hondt** C. Nordborg D.R. Weaver	Belgium
09-02	**S. Maeda** M. Yamamoto T. Soga T. Sekine T. Aoyama	Japan
09-03	**T.H. Lee** J.H. Eoh H.Y. Lee J.H. Lee T.J. Kim J.Y. Jeong S.K. Park J.W. Han, Y.B. Lee D.H. Hahn	Korea, Republic of
09-04	**A.V. Bychkov**	Russian Federation

Title of Paper

Availability of research and test facilities for fast reactor development

Core Modification for the High Core Burn-up to improve Irradiation Efficiency of the Experimental Fast Reactor Joyo

Scientific design of large scale sodium thermal-hydraulic test facility in KAERI

Status and basic lines of development of experimental and material science base for fast reactor technologies

11:30–12:30 **PARALLEL SESSION 5.3: Fast reactor fuel cycles (Conference Room B-1)**

Chairpersons: **Y. Kuno, Japan**
A. Stanculescu, IAEA

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
05-14	**J.F. Pilat**	United States of America
05-15	**D. Greneche**	France
05-16	**Y. Kuno** M. Senzaki M. Seya N. Inoue	Japan

12:30-13:40 Lunch break

Title of Paper

Proliferation resistance for fast reactors and related fuel cycles: issues and impacts

Proliferation issues related to the deployment of fast neutron reactors

Role of safeguards in proliferation resistance for the future nuclear fuel cycle systems

13:40–15:20 **PARALLEL SESSION 6.3:**
Fast reactor analysis: basic data, experiments and advanced simulation (Annex Hall)

Chairpersons: **H. Ohshima, Japan**
A. Siegel, United States of America

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
06-15	**M. Caro** A. Stukowski P. Erhart B. Sadigh A. Caro	United States of America
06-16	**R. Stieglitz** A. Batta J. Zeininger	Germany
06-17	**T.H. Fanning** T. Sofu	United States of America
06-18	**W.D. Pointer** J. Smith A. Siegel P. Fischer	United States of America
06-19	**S.M. Woo** H.M. Park S.H. Chang	Korea, Republic of

Title of Paper

Thermodynamic aspects of FeCr swelling under helium irradiation

Turbulent liquid metal heat transfer along a heated rod within an annular cavity

Modeling of thermal stratification in sodium fast reactor outlet plenums during loss of flow transients

RANS Simulations of turbulent diffusion in wire-wrapped sodium fast reactor fuel assemblies

The multi-dimensional analysis method development for KALIMER-600 using MARS-LMR CODE

13:40–15:00 **PARALLEL SESSION 10:**
Fast reactor knowledge management, education and training
(Conference Room B-1)

Chairpersons: **D.H. Hahn, Korea, Republic of**
T. Wakabayashi, Japan

No. of Paper IAEA-CN-176-	*Name*	*Designating Member State/Organization*
10-01	**A. Pryakhin** A. Stanculescu Y. Yanev	IAEA
10-02	G. Rodriguez F. Baqué **C. Latgé** A. Leclerc L. Martin B. Vray T. Montanelli	France
10-03	**M. Sawada** N. Koyagoshi K. Sasaki M. Nishida	Japan
10-04	**S.A.V. Satya Murty** P. Swaminathan B. Raj	India

15:20-15:40 Break

15:40–16:40 **PANEL 2:**
International activities: collaborative programmes, harmonization of prototypes, sharing of facilities and standardization
(Annex Hall)

Chairperson: **C. Hu, China**

Panellists: **W. Maschek, Germany**
Y. Sagayama, Japan
A. Chebeskov, Russian Federation
S. Golub, United States of America
P. Frigola, EC

16:40-16:50 Break

Title of Paper

International fast reactor knowledge organization system

The French Sodium School: Teaching sodium technology for the present and future generations of SFR users

Human development in Japan and abroad using the prototype FBR “Monju” towards the next-generation age

Knowledge management in fast reactors and related fuel cycles

16:50–17:45 **CLOSING SESSION**
(Annex Hall)

Chairpersons: **Y. Hayase, Japan**
R. Schenkel, EC

T. Takeda, Japan

YGE representative

M. Salvatores, France

Y. Sokolov, IAEA
Deputy Director General, IAEA
Department of Nuclear Energy

Y. Hayase, Japan
Executive Vice President, JAEA

Awards ceremony

Report on the Young Generation Event

Issues and challenges of fast reactors: imaginative breakthrough vs. business as usual

Closing remarks

Closure of the conference

FRIDAY, 11 DECEMBER 2009

07:30–10:00	Travel to Tsuruga
10:00–12:00	**TSURUGA SESSION**
Chairperson:	**T. Takeda, Japan**
10:00–10:20	**Opening addresses** Representatives of the IAEA, Fukui Prefecture, Tsuruga City, and MEXT
10:20–11:10	**Keynote presentations**
	Y. Akimoto President, Japan Atomic Energy Relations Organization
	H.F. McFarlane Deputy Associate Laboratory Director for Nuclear Programs, Idaho National Laboratory
	M. Xu Chief Engineer, China Experiment Fast Reactor, China Institute of Atomic Energy
11:10–11:50	**Discussion**
11:50–12:00	**Comments from the Chairperson and closing remarks**
12:00-13:00	Lunch break
13:00-13:45	Travel to Monju site
13:45–16:45	**MONJU TOUR**
16:45-19:30	Travel to Kyoto

Importance of fast reactor R&D

Lessons learned in the US and expectations of Monju

Prospect on Chinese fast reactor development and expectations of Monju

POSTERS

POSTERS OF SESSION 1:
Innovative fast reactors: objectives and driving forces

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
01-13P	**M. Mito** K. Ikeda H. Sato K. Stein	Japan
01-14P	**C. Artioli** G. Grasso M. Sarotto S. Monti E. Malambu	Italy
01-15P	B.A. Gabaraev **V.N. Leonov** V.V. Orlov V.S. Smirnov V.S. Tsykunov Yu.S. Cherepnin	Russian Federation
01-16P	**S.Y. Choi** J.H. Cho M.H. Bae J. Lim I.S. Hwang	Korea, Republic of
01-17P	**Y. Asahi**	Japan
01-18P	**S. Uchikawa** T. Okubo Y. Nakano	Japan
01-19P	**F. Heidet** E. Greenspan	United States of America
01-20P	**N. Takaki** T. Yoda	Japan
01-21P	**S. Kasai** S. Fujiwara K. Yamada S. Makino T. Ogawa	Japan
01-22P	**K. Koguchi** S. Kasai M. Takahashi T. Wakabayashi	Japan

Title of Paper

Design study on the Advanced Recycling Reactor

European Lead-cooled SYstem core design: an approach towards sustainability

Lead-cooled fast reactor (BREST) with an on-site fuel cycle

P-DEMO for demonstration of fast spectrum transmutator PEACER

Conceptual design of 1,000 MWth Inherently Safe Fast Reactor (ISFR)

Advanced light water reactor with hard neutron spectrum for realizing flexible plutonium utilization (FLWR)

Minimum burnup required for sustainable operation of fast reactors without reprocessing

Production enhancement and quality degradation of Pu produced in FBR blankets

A feasibility study of hydrogen production by HTE coupled with SFR

Risk assessment of a dimethyl ether steam reforming hydrogen production system by an advanced reactor

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
01-23P	**S. Massara** D. Lecarpentier T. Jourdheuil N. Largenton D. Verrier P. Sciora G. Mignot	France
01-24P	**A. Katoh** S. Kotake T. Yoshiuji	Japan

Technical and economical assessment of sodium-cooled fast breeder reactors with increased cycle length

Development of FR construction cost estimation method in FaCT (Fast reactor Cycle Technology development) project

POSTERS OF SESSION 2:
Fast reactor coolant technology and instrumentation

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
02-08P	**V.V. Alexeev** F.A. Kozlov E.A. Orlova A.S. Kondratyev I.Yu. Torbenkova	Russian Federation
02-09P	**C. Xie** C.Q. Xing C.L. Yu L. Tian	China
02-10P	**M. Komai** E. Hoashi H. Ota H. Horiike	Japan
02-11P	**T. Hiramatsu** A. Iwata M. Hirabayashi H. Monji	Japan
02-12P	L. Brissonneau N. Simon M. Saez F. Balbaud D. Rochwerger F. Baqué G. Rodriguez A. Gerber **S. Menou** G. Prèle A. Capitaine	France
02-13P	**M. Kawaguchi** A. Tagawa S. Miyahara S. Honda H. Kiyokawa	Japan
02-14P	**N. Kobayashi** S. Nagai M. Ochiai N. Jimbo	Japan

Title of Paper

The modeling of corrosion products mass transfer in circuits of LMFBRs with sodium and lead coolant

Large size sodium purification device used for producing nuclear grade sodium of CEFR

Development of a new electromagnetic flow meter in sodium-cooled fast reactor

Ultrasonic flowmeter for JSFR

The potential use of an alternative fluid for SFR intermediate loops: selection and first design

The experimental study on wetting behavior between liquid sodium and various plated stainless steel under low temperature condition

Demonstration of remote field eddy current testing of double wall tube with wire mesh layer

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
02-15P	**M. Morimoto** J. Katoh M. Kodama Y. Michishita Y. Ohtani K. Nakata K. Ikeuchi H. Fujii T. Tsumura	Japan
02-16P	**N. Nishiyama** S. Kotake M. Uzawa	Japan
02-17P	**A. Tagawa** H. Okamoto M. Ueda T. Yamashita K. Haga	Japan

Title of Paper

Development of the in-vessel repairing technology with friction stir welding method for FBR

In-service inspection and repair program for commercialized sodium-cooled fast reactor

Development of an ISI robot for the fast breeder reactor Monju primary heat transfer system piping

POSTERS OF SESSION 3:
Fast reactor safety: approaches and issues

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
03-11P	**Y. Fukano** K. Kawada I. Sato A.E. Wright D.J. Kilsdonk R.W. Aeschlimann T.H. Bauer	Japan
03-12P	A.E. Wright T.H. Bauer D.J. Kilsdonk R.W. Aeschlimann Y. Fukano **K. Kawada** I. Sato	Japan
03-13P	**P. Chellapandi** K. Natesan S.C. Chetal B. Raj	India
03-14P	**W. Jaeger** V.H. Sanchez Espinoza A. Hurtado	Germany
03-15P	I.A. Kuznetsov **Yu.Ye. Shvetsov**	Russian Federation
03-16P	**O. Kawabata** H. Endo K. Haga	Japan
03-17P	**T. Ishizu** H. Endo K. Haga F. Inoue N. Shirakawa	Japan
03-18P	**M. Inoue** H. Endo K. Haga K. Sugiyama	Japan
03-19P	**T. Yamamoto** T. Nakajima H. Endo T. Yokoyama	Japan
03-20P	**Y. Kasagawa** S. Miura H. Endo	Japan

Title of Paper

CAFE experiments on the flow and freezing of metal fuel and cladding melts (1) - Test conditions and overview of the results -

CAFE experiments on the flow and freezing of metal fuel and cladding melts (2) - Results, analysis, and applications -

Analysis of mechanical and thermal consequences of core disruptive accident: approach for current and future SFRs

Safety related investigations of a LFR core with the coupled TRACE/ERANOS system

Computational efficiency analysis of fuel pin damage registration and fuel assembly damage location by means of a sector fuel failure detection and location system

Severe accident containment-response and source term analyses by AZORES code for a typical FBR plant

Study on Energy Release Mechanism during ULOF Initiating Phase of LMFBR

Plans of verification tests for the ACTOR code analyzing fission products behavior in primary heat transportation system of FBR

A fundamental study on criticality evaluation of damaged core under disruptive accidents of LMFBRs

Reliability analysis for a cooling system of a typical FBR plant's ex-vessel fuel storage tank (EVST) using the PSA method

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
03-21P	**Y. Tsuboi** H. Matsumiya N. Ueda T. Grenci	Japan
03-22P	**H. Matsumiya** F. Sebe K. Ishii H. Horie K. Miyagi	Japan
03-23P	**I. Sato** Y. Tobita K. Konishi K. Kamiyama J. Toyooka R. Nakai S. Kubo S. Kotake K. Koyama Y. Vassiliev A. Vurim V. Zuev	Japan
03-24P	**H. Endo** O. Kawabata T. Ito T. Ishizu K. Haga M. Inoue H. Nagase	Japan
03-25P	**Y. Shindo** H. Endo M. Inoue	Japan
03-26P	**K.L. Lee** K.S. Ha H.Y. Jeong Y.B. Lee D.H. Hahn	Korea, Republic of
03-27P	**J.H. Cho** S.Y. Choi M.H. Bae I.S. Hwang	Korea, Republic of
03-28P	G.I. Toshinsky **O.G. Komlev** N.N. Novikova I.V. Tormyshev V.S. Stepanov N.N. Klimov S.N. Bolvanchikov A.V. Dedoul	Russian Federation

Title of Paper

Safety system designs and characteristics of the 4S

Evaluation of risk reduction measures on the UTOP event of the 4S

Elimination of severe recriticality events in the core disruptive accident of JSFR aiming at in-vessel retention of the core materials

Level-2 PSA for the prototype fast breeder reactor Monju applied to the accident management review

Validation of two-phase flow model in the RELAP5/3D code for steam-generator blow down analysis using a test data of Monju

A study on the sensitivity analysis for the safety feature of KALIMER600 with MARS-LMR

Safety analysis of P-DEMO, a pool-type lead bismuth fast reactor

Inherent and passive safety characteristics of modular fast reactor, SVBR-100 with lead-bismuth coolant

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
03-29P	**A.V. Dedul** V.V. Kalchenko V.S. Stepanov V.V. Usenkov	Russian Federation

Radiation shielding and radiation safety in the pool-type reactor SVBR-100

POSTERS OF SESSION 4:
Fast reactor structural materials: achievements and new challenges

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
04-11P	**P. Hosemann** S.A. Maloy M. Toloczko J. Cole T.S. Byun	United States of America
04-12P	**B.A. Vasilyev** O.Yu. Vilensky V.B. Kaidalov B.Z. Margolin A.G. Gulenko I.P. Kursevich	Russian Federation
04-13P	**L.N. Brewer** B.L. Boyce J.R. Michael K.M. Hattar	United States of America
04-14P	**T. Dohnomae** K. Katsuyama Y. Tachi K. Maeda M. Yamamoto T. Soga	Japan
04-15P	**T. Hino** N. Jimbo M. Tamura W. Kono Y. Tanaka S. Maruyama	Japan
04-16P	**A.M. Sukegawa** Y. Anayama K. Okuno S. Ohnishi S. Sakurai A. Kaminaga	Japan
04-17P	**S.I. Porollo** S.V. Shulepin A.A. Ivanov Yu.V. Konobeev N.I. Budylkin E.G. Mironova	Russian Federation

Title of Paper

Core Materials Development and Testing for the Advanced Fuel Cycle Initiative

Approaches to validation of fast reactor lifetime extension

Development of microscale mechanical testing methods for assessing radiation damage in cladding steels

Development of long-lived control rods for the fast reactor

Development of welding technique for double wall tube

Development of flexible neutron shielding resin as an additional shielding material

Swelling and irradiation creep of three Russian austenitic steels neutron irradiated in wide range of doses and temperatures

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
04-18P	**V.S. Ageev** A.A. Nikitina A.P. Chukanov M.V. Leontyeva-Smirnova M.M. Potapenko B.V. Safronov V.V. Tsvelev	Russian Federation
04-19P	**A.S. Bakai** S.V. Dyuldya	Ukraine
04-20P	**S.I. Porollo** S.V. Shulepin V.V. Popov Yu.V. Konobeev Yu. P. Budanov N.M. Mitrofanova A.V. Tselishchev	Russian Federation
04-21P	**A.E. Rusanov** V.V. Popov I.S. Kurina G.A. Birzhevoy Yu.M. Pevchikh	Russian Federation

Title of Paper

R&D of ODS steels for fuel pin claddings of fast neutron reactors

Construction materials for molten salt reactor: design and tests under e-irradiation

Performance of the BN-600 reactor fuel pins with claddings made of austenitic steels EI-847, EP-172 and ChS-68 at high radiation damage levels

Materials testing aspects of fuel elements development for lead-bismuth cooled fast reactor SVBR-100

POSTERS OF SESSION 5:
Fast reactor fuel cycles

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
05-17P	**A. Shadrin** V. Kamachev A. Mursin D. Shafikov	Russian Federation
05-18P	**K. Mizuguchi** K. Fuse S. Kanamura R. Fujita T. Omori K. Utsunomiya	Japan
05-19P	**J. Bae** H.O. Nam H.S. Jung S.Y. Choi Y.H. Jeong I.S. Hwang	Korea, Republic of
05-20P	**T. Hijikata** T. Murakami T. Koyama	Japan
05-21P	**T. Namekawa** Y. Yamada A. Kitamura T. Hosogane K. Kawaguchi	Japan
05-22P	**K. Uozumi** H. Miura T. Tsukada	Japan
05-23P	**K. Kotoh** T. Nakamura Y. Yamashita	Japan
05-24P	**T. Omori** K. Mizuguchi K. Utsunomiya R. Fujita	Japan
05-25P	**K. Ikeda** R.A. Kochendarfer W. Nakazato S. Kunishima	Japan
05-26P	A.V. Zrodnikov **G.I. Toshinsky** O.G. Komlev K.G. Melnikov N.N. Novikova	Russian Federation

Title of Paper

Possibility of reprocessing SNF WWER and BN in compressed Freon HFC-134a

Development of hybrid reprocessing technology with solvent extraction and pyro-chemical electrolysis

Pyrochemical cleaning of final wastes into low and intermediate level waste: PyroGreen

Development of high-temperature transport technologies for liquid Cd cathode of pyro-reprocessing

Handling technology of low decontaminated TRU fuel for the simplified pelletizing method fuel fabrication system

Development of spent salt treatment technology by zeolite column system

Burnup behavior of FBR fuels sourced in uranium and plutonium recycled in PWRs and its influence on fuel cycle economy

The way to achieve sustainable nuclear energy fuel cycle

TRU management by fast reactor toward sustainability and flexibility

Fuel cycle for reactor SVBR-100

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
05-27P	A.V. Lopatkin V.V. Orlov **V.S. Smirnov** A.A. Umansky	Russian Federation
05-28P	**K. Ono** A. Ohtaki	Japan
05-29P	**T. Fukasawa** J. Yamashita K. Hoshino K. Fujimura H. Kobayashi M. Akabori K. Sugiyama	Japan
05-30P	**K. Fujimura** A. Sasahira T. Fukasawa K. Hoshino	Japan
05-31P	A.V. Zrodnikov **V.S. Kagramanyan** B.A. Vassilyev I.A. Shkabura M.V. Kormilitsyn	Russian Federation
05-32P	**Yu. Fedorov** B. Bibichev A. Shadrin B. Zilberman Yu. Khomyakov A. Tsikunov	Russian Federation
05-33P	**K. Kawashima** T. Ogawa S. Ohki T. Okubo T. Mizuno	Japan
05-34P	**S. Permana** M. Suzuki M. Saito	Japan
05-35P	**M. Saito**	Japan
05-36P	**Y. Kimura** M. Saito H. Sagara	Japan
05-37P	**T. Ito** K. Tanuma	Japan

Title of Paper

Capabilities of the BREST reactors and their fuel cycles in development of nuclear power based on fast reactors

Study on transition scenario from thermal reactor to fast reactor in Japan

Fuel cycle investigation for the flexible deployment of FBR

Fast breeder reactor core concept consistent with fuel cycle system during the transition period from LWR to FBR cycles in Japan

Transition scenarios of nuclear power development in Russia

Joint processing of SNF MOX FR and SNF RBMK

Fast reactor core design considerations from proliferation resistance aspects

Core performance and isotopic plutonium vector analysis in MA doped FaCT FBR

Protected Plutonium Production (P3) by transmutation of minor actinides for peace and sustainable prosperity

Proliferation resistance of plutonium based on decay heat

Enhancement of physical protection measures and observation on future JAEA's measures reflecting INFCIRC/225/Rev.5 (draft) under consideration at IAEA

POSTERS OF SESSION 6:
Fast reactor analysis: basic data, experiments and advanced simulation

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06-20P	**M. Kawashima** Y. Tsuboi	Japan
06-21P	**K. Yamamoto** T. Kitada	Japan
06-22P	**S.J. Kim** W.S. Yang H. Song J.W. Yoo Y.I. Kim	Korea, Republic of
06-23P	G. Palmiotti **M. Salvatores** M. Assawaroongruengchot	France
06-24P	**P. Mohanakrishnan** A. Riyas R. Harish G.S. Srinivasan	India
06-26P	**Y. Tachi** T. Wakabayashi	Japan
06-27P	**K. Aizawa** J. Ohshima H. Kamide N. Kasahara	Japan
06-28P	V.M. Poplavsky A.D. Efanov A.V. Zhukov **A.P. Sorokin** Yu.S. Yuriev	Russian Federation
06-29P	**Yu.Ye. Shvetsov** I.A. Kuznetsov	Russian Federation
06-30P	**M. Anitescu** O. Roderick P. Fischer W.S. Yang	United States of America
06-31P	**C. Lee** W.S. Yang	United States of America
06-32P	**K. Ikeda** H. Moriwaki W. Nakazato	Japan

Title of Paper
Comparisons of cross section sensitivity coefficients in a small fast reactor
Development of adjoint method of characteristics code for fast reactor
Performance and reactivity coefficient analysis of large TRU burning fast reactors
Innovative fast reactors: impact of fuel composition on reactivity coefficients
Reactor physics and safety aspects of metal fuelled FBR
Compatibility of iodides with stainless steels of cladding for LLFP transmutation
Experimental and analytical study of failed fuel detection and location system in JSFR
Thermohydraulics of sodium-cooled-reactors
Calculation of the thermohydraulic parameters of a fast neutron reactor with account of inter-fuel assembly space influence
Polynomial regression with derivative information in nuclear reactor uncertainty quantification
Development of multigroup cross section generation code MC^2-3 for fast reactor analysis
Nuclear calculation methodology and development of 3-D transport nuclear design code

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
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06-38P	**J. Lee** B.S. Shin S.H. Chang	Korea, Republic of
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06-42P	**T. Mouri** W. Sato M. Uematsu T. Hazama T. Suzuki	Japan
06-43P	**H. Taninaka** S. Tomizuka K. Hashimoto F. Nakashima	Japan

Title of Paper

Nuclear energy advance modeling and simulation program - fuels integrated performance and safety code program - a multi-scale approach to modeling and simulations

Atomistic modeling of the U-Zr system

Design modeling of fuel particles for high-burnup in in pebble-bed fast reactors

Numerical modeling of gaseous fission product transport at the meso-scale: a multi-physics mechanical response of fuel pin swelling

Calculation capability of NETFLOW++ code for natural circulation in sodium cooled fast reactor

CFD Analysis of natural convective non-Darcy flow in porous medium

Validation of plant dynamics analysis code Super-COPD by Monju startup tests

Monte Carlo simulation of BN-600 LMFR hybrid core

Deterministic analysis of the Encapsulated Nuclear Heat Source by the European transport code ERANOS

Monju core physics test analysis with various nuclear data libraries

Calculation of spatial harmonics in fast breeder reactor Monju

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
06-44P	**Y. Liu** Y. Xu Z. Hou X. Xue	China
06-45P	**A. Matsuda** H. Watanabe J. Ohno	Japan
06-46P	**N. Hamada** K. Shiina K. Fujimata S. Hayakawa O. Watanabe H. Yamano	Japan
06-47P	**T. Nakatsuka** T. Misawa H. Yoshida K. Takase	Japan

Title of Paper

Calculation and test of core flowrate distribution of CEFR

Evaluation on natural circulation behavior of the 4S by integrated analytical models

Development of computational method for predicting vortex cavitation in the reactor vessel of JSFR

Thermal-hydraulic calculation for simplified fuel assembly of super fast reactor using two-fluid model analysis code ACE-3D

POSTERS OF SESSION 7:
Advanced fast reactor fuels

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
07-11P	**V. Tikare** A.L. Garcia E.A. Holm	United States of America
07-12P	**T. Ozawa** H. Nakajima	Japan
07-13P	**S. Miwa** M. Osaka J. Yamane T. Yano K. Kurosaki M. Uno S. Yamanaka S. Takano Y. Yamane	Japan
07-14P	**Y. Ikusawa** T. Ozawa S. Maeda	Japan
07-15P	**J. Somers** P.E. Raison S. Castanié R. Konings C. Maillard F. Jorion L. Donnet	Germany
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07-17P	**T. Segawa** M. Kato M. Kashimura Y. Kihara	Japan
07-18P	**S. Nakamichi** M. Kato T.Tamura	Japan

Title of Paper

Numerical simulation of fuel microstructural evolution in a thermal gradient

Development of a probabilistic design method for fast reactor fuel rods

Inert matrix fuel concept for the rapid incineration of minor actinides harmonious with a fast reactor cycle system

Suitability of a thermal design method for FBR oxide fuel rods

Studies of interaction of GEN-IV advanced fuels with metallic coolant (Na, Pb) in operating conditions.

Progress of demonstration experiment on irradiation of vibro-packed MOX fuel assemblies in the BN-600 reactor

Oxidation behavior and sintering property of MOX powder obtained by microwave heating direct denitration

Oxygen potentials of $(MA,Pu,U)O_{2-x}$

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
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07-20P	**K. Morimoto** M. Kato M. Ogasawara M. Kashimura	Japan
07-21P	**A. Komeno** K. Morimoto M. Kato M.Ogasawara H.Uno	Japan
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07-24P	**M. Suzuki** K. Ishii Y. Kihara T. Kurita Y. Kato K. Yoshimoto K. Fujii	Japan
07-25P	**J.P. Panakkal** A. Mohd R.B. Bhat A.K. Mishra H.S. Kamath	India
07-26P	**T. Ogata** K. Nakamura H. Ohta M. Kurata T. Yokoo	Japan

Title of Paper

Behavior of (Pu,Si) oxide formed from impurity Si in MOX pellet

The influence of Pu-content on thermal conductivities of $(U, Pu)O_2$ solid solution

Property changes and thermal recovery in self-irradiated MOX

Evaluation of diffusion behavior of actinide dioxide by molecular dynamics simulation

Granulation technology for the simplified pellet fabrication process

Development of innovative system and technology on MOX fuel production for FBR

Fabrication of MOX fuel elements for irradiation in Fast Breeder Test Reactor (FBTR)

Research and development of fast reactor metal fuel by CRIEPI

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
07-27P	**A.K.Sengupta** R.K. Bhagat J. Banerjee R.P. Singh H.S. Kamath	India
07-28P	**M. Naganuma** T. Ogata T. Mizuno	Japan
07-29P	**A.M. Yacout** Y. Tsuboi N. Ueda	United States of America
07-30P	A.V. Bychkov **V.A. Kisly** Yu.M. Golovchenko	Russian Federation
07-31P	**J. Rest**	United States of America
07-32P	**Y.S. Kim** G.L. Hofman A.M. Yacout T. K. Kim J. Rest	United States of America
07-33P	**F. Mazaudier** C. Tamani	France
07-34P	**K. Nakamura** T. Kato T. Ogata K. Nakajima T. Iwai Y. Arai	Japan
07-35P	S.K. Kim **C.T. Lee** S.J. Oh Y.M. Ko Y.M. Woo H.J. Ryu C.B. Lee	Korea, Republic of
07-36P	**T. Nozaki** T. Arima Y. Inagaki K. Idemitsu	Japan
07-37P	**A. Kumar** U. Basak K.N. Chandrasekharan K.B. Khan H.S. Kamath	India

Title of Paper

Development of metallic fuels for Indian fast breeder reactors

U-Pu-Zr metalic fuel core and fuel concept for SFR with 550 C core outlet temperature

Fuel design evaluation of the 4S

Oxide-metal cores - stage of conversion to the metal fuel core for the fast reactors of the BN-type

Evolution of fission-gas bubble size distributions during high temperature irradiation of uranium-alloy fuel

An assessment of the use of U-Pu-Mo fuel in fast reactors

On the oxidation of (U,Pu)C literature survey, experimental and kinetic aspects, practical issues

U-Pu-Zr Metal fuel fabrication for irradiation test at Joyo

Fabrication and characterization of U-Zr alloys for SFR fuel by gravity casting

Synthesis of zirconia sphere particles with natural organic material

Manufacturing experience for mixed uranium-plutonium carbide fuels for fast breeder test reactor

POSTERS OF SESSION 8:
Improvements in fast reactor components and system design

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
08-10P	**M. Ogura** Y. Okubo T. Ito M. Toda S. Kobayashi S. Ohki T. Okubo T. Mizuno S. Kotake	Japan
08-11P	**M. Etoh** Y. Kamishima S. Okamura O. Watanabe K. Ohyama S. Kotake K. Negishi H. Kamide Y. Sakamoto	Japan
08-12P	**K. Ichikawa** K. Shimoji Y. Xu Y. Tsujita M. Sato T. Sakai S. Kotake	Japan
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08-14P	**K. Hasegawa** T. Inatomi T. Sakai	Japan
08-15P	**J.H. Lee** C.G. Park	Korea, Republic of
08-16P	**A. Katoh** H. Obata S. Hirata Y. Chikazawa N. Uto	Japan

Title of Paper

Conceptual design study of JSFR (1) - overview and core concept

Conceptual design study of JSFR (2) – reactor system

Conceptual design study of JSFR (3) - reactor cooling system

Conceptual design study of JSFR (4) - reactor building layout

Structural integrity test on reflector cavity of 4S

Structural design studies on a large pool type SFR of 1200 MWe

Thermal analysis on shipping cask for JSFR fresh fuel

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
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08-19P	A.V. Timofeev **M.A. Lyubimov** A.D. Budylsky	Russian Federation
08-20P	**Y. Oyamatsu** S. Fujiwara R. Aizawa M. Funato K. Katsuki H. Ota	Japan
08-21P	**K. Ohyama** O. Watanabe Y. Eguchi T. Koga H. Kamide H. Ohshima	Japan
08-22P	**K. Kurome** M. Kawamura Y. Enuma Y. Tsujita M. Sato S. Futagami H. Hayafune	Japan
08-23P	**H.Y. Nam** B.H. Choi J.M. Kim B.H. Kim	Korea, Republic of
08-24P	**T.K Mitra** A. Pai P. Kumar	India
08-25P	M.K. Birznek A.V. Ershov **Y.A. Bovsha**	Russian Federation
08-26P	**P. Kumar** S.S. Dhere V. Manoharan L. Swamy Raju	India

Title of Paper

Development of transfer pot for JSFR ex-vessel fuel handling

Development of spent fuel cleaning method for JSFR

Design and layout decisions for refuelling system of advanced fast neutron reactor

Design validation of the 4S high temperature electromagnetic pump by one pole segment test equipment

Decay heat removal system by natural circulation for JSFR

Steam generator with straight double-walled tube - development of fabrication technologies of main structures made of high chrome steel-made

Thermal-hydraulic design of a double wall tube steam generator with an on-line leak detection system

Design and manufacture of tube to tubesheet joints of steam generator for 500 MWe Prototype Fast Breeder Reactor

Componentry, constructive and process solutions of sodium vapour precipitation problem

Challenges in PFBR civil construction

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
08-27P	**H. Namba** J. Suhara S. Maruyama	Japan
08-28P	**S. Okamura** M. Eto Y. Kamishima K. Negishi Y. Sakamoto S. Kitamura S. Kotake	Japan

Title of Paper

Design of seismic base-isolation for the Super-Safe, Small and Simple (4S) reactor building

Seismic isolation design for JSFR

POSTERS OF SESSION 9:
Past twenty years with fast reactors and experimental facilities: experience and prospects

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
09-06P	**S. Chandramouli** G. Padmakumar V. Prakash R. Veerasamy J.I. Sylvia B.K. Nashine B.K. Sreedhar I.B. Noushad B. Krishnakumar K.K. Rajan C. Anand Babu P. Kalyanasundaram G. Vaidyanathan	India
09-07P	**Y. Maeda** T. Aoyama H. Sakaba A. Yoshida S. Suzuki	Japan
09-08P	O.M. Saraev Yu.V. Noskova D.L. Zverev **B.A. Vasilyev** V.Yu. Sedakov V.M. Poplavsky A.M. Tsybulya V.N. Yershov S.G. Znamensky	Russian Federation
09-09P	P. Baeten H. Aït Abderrahim D. De Bruyn **(presented by: C. Artioli)**	Belgium
09-10P	M. Carta O. Fiorani R. Rosa **A. Santagata**	Italy

Title of Paper

Engineering R&D for sodium cooled fast breeder reactor in India

Thirty years operating experience at the experimental fast reactor Joyo

Design validation and BN-800 power unit construction status

From MYRRHA/XT-ADS to MYRRHA/FASTEF: the FP7 Central Design Team project

The ENEA TAPIRO fast-source reactor for neutronic research

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
09-11P	**H. Hayafune** S. Futagami M. Shimazaki H. Ishikawa I. Murakami K. Shimoyama H. Miyakoshi K. Kawata T. Yatabe E. Yoshida M. Nishikane Y. Enuma K. Kurita H. Kikuchi	Japan
09-12P	**J. Orita** K. Namiki T. Masuzaki N. Sawa M. Yui Y. Otani S. Utsumi	Japan
09-13P	**V.M. Poplavsky** B.A. Vasilyev	Russian Federation
09-14P	A.V. Bychkov M.N. Svyatkin A.V. Baryshev V.D. Risovany **S. Poglyad**	Russian Federation
09-15P	V.N. Efimov **I.Yu. Zhemkov** A.S. Korolkov	Russian Federation
09-16P	V.D. Grachev I.Yu. Zhemkov A.N. Kozolup **Yu.V. Naboishchikov**	Russian Federation

Title of Paper

Sodium test plan and facility for JSFR developments

Overview of sodium test facilities in Takasago R&D Center of Mitsubishi Heavy Industries, Ltd.

Out-of-pile experimental base to justify fast reactors and prospects of its further development

Current state of RIAR experimental base for fast reactors development

Russian fast research reactor BOR-60 Reactor. Experimental investigations

Calculation support of Russian fast research reactor BOR-60. Operation and experiments

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
09-17P	M.N. Svyatkin **A.L. Izhutov** I.Yu. Zhemkov I.T. Tretiakov A.V. Lopatkin V.M. Poplavsky L.A. Kochetkov V.A. Cherny Yu.I. Petrov M.I. Zavadsky V.Yu. Yamov B.A. Vasiliev V.I. Shkarin N.B. Trunov V.A. Chaban	Russian Federation

Purpose and priority tasks of a Russian multi-function fast research reactor

POSTERS OF SESSION 10:
Fast reactor knowledge management, education and training

No. of Poster IAEA-CN-176-	*Name*	*Designating Member State/Organization*
10-06P	**A.A. Andrianov** Yu.M. Ashurko V.M. Murogov A. Stanculescu A.S. Pryakhin Y. Yanev	Russian Federation
10-07P	**S. Yoshikawa** M. Minami T. Takahashi	Japan
10-08P	**T. Aoyama** C. Ito Y. Ohkawachi S. Maeda S. Suzuki K. Chatani T. Takeda	Japan

Title of Paper

Model of fast reactor knowledge preservation system

Network representation of design knowledge of prototype fast breeder reactor

Student internship program using the experimental fast reactor Joyo and related facilities

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Governments of Member States and those organizations whose activities are relevant to the meeting subject matter are invited to designate participants in IAEA scientific conferences and symposia. In addition, the IAEA itself may invite a limited number of scientists as invited speakers. Only participants designated or invited in this way are entitled to present papers and take part in the discussions.

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TECDOC-1289	Comparative Assessment of Thermophysical and Thermohydraulic Characteristics of Lead, Lead-bismuth and Sodium Coolants
TECDOC-1318	Validation of Fast Reactor Thermomechanical and Thermohydraulic Codes
TECDOC-1348	Power reactor and sub-critical blanket systems with lead and lead-bismuth as coolant and/or target material
TECDOC-1349	Potential of thorium-based fuel cycles to constrain plutonium and reduce the long lived waste toxicity
TECDOC-1356	Emerging Nuclear Energy and Transmutation Systems: Core Physics and Engineering Aspects
TECDOC-1405	Operational and Decommissioning Experience with Fast Reactors
TECDOC-1406	Primary Coolant Pipe Rupture Event in Liquid Metal Cooled Reactors
TECDOC-1520	Theoretical and Experimental Studies of Heavy Liquid Metal Thermal Hydraulics
TECDOC-1531	Fast Reactor Database 2006 Update
TECDOC-1569	Liquid Metal Cooled Reactors: Experience in Design and Operation
IAEA-THPH ISBN 978-92-0-106508-7	Thermophysical Properties of Materials for Nuclear Engineering: A Tutorial and Collection of Data
TECDOC-1623	BN-600 Hybrid Core Benchmark Analyses. Results from a Coordinated Research Project on "Updated Codes and Methods to Reduce the Calculational Uncertainties of the LMFR Reactivity Effects" (In Print)
TECDOC-1626	Advanced Reactor Technology Options for Utilization and Transmutation of Actinides in Spent Nuclear Fuel (In Print)

FORTHCOMING SCIENTIFIC MEETINGS SCHEDULED BY THE IAEA

2010

Int'l Conference on Human Resource Development for Introducing and Expanding Nuclear Power Programmes
14-18 March, Abu Dhabi, United Arab Emirates

Int'l Conference on Management of Spent Fuel from Nuclear Power Reactors
31 May-4 June, Vienna, Austria

Int'l Conference on Operational Safety Experience and Performance of Nuclear Power Plants and Fuel Cycle Facilities
21-25 June, Vienna, Austria

23rd IAEA Fusion Energy Conference
11-16 October, Daejon, Republic of Korea

Int'l Conference on Challenges Faced by Technical and Scientific Support Organizations (TSO) in Enhancing Nuclear Safety and Security
25-29 October, Tokyo, Japan

Symposium on International Safeguards: Preparing for Future Verification Challenges
1-5 November, Vienna, Austria

Int'l Symposium on Standards, Applications and Quality Assurance in Medical Radiation Dosimetry
9-12 November, Vienna, Austria

For information on forthcoming scientific meetings, please consult the IAEA web site: http://www.iaea.org/

International Atomic Energy Agency
IAEA-CN-176
P.O. Box 100
Vienna International Centre
1400 Vienna, Austria
Telephone No.: +43 1 2600 (0) plus extension
Telefax No.: +43 1 26007
Email: official.mail@iaea.org

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