

**Technical Meeting on
Structural Materials for Heavy
Liquid Metal Cooled Fast
Reactors**

Report of Contributions

Contribution ID: 1

Type: **not specified**

ID-01: Corrosion behaviours of austenitic steel and ferritic steel in LBE with oxygen controlled conditions

Wednesday, 16 October 2019 10:30 (30 minutes)

Primary author: Mr QIN, Bo (CIAE)

Presenter: Mr QIN, Bo (CIAE)

Session Classification: Session II: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Track Classification: II: Qualification Programmes of Structural Materials for HLM Fast Reactors

Contribution ID: 2

Type: **not specified**

ID-2: Status of HLMC technology and related research in China Institute of Atomic Energy

Thursday, 17 October 2019 11:30 (30 minutes)

Primary author: LONG, Bin (China Institute of Atomic Energy)

Presenter: LONG, Bin (China Institute of Atomic Energy)

Session Classification: Session III: Qualification Programmes of Structural Materials for HLM Fast Reactors

Track Classification: III: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Contribution ID: 3

Type: **not specified**

ID-3: Kinetics and mechanism of crack initiation of Liquid Metal Embrittlement of T91 and 15-15Ti Steels

Tuesday, 15 October 2019 10:50 (30 minutes)

Primary author: Ms HOJNA, Anna (CV Rez)

Presenter: Ms HOJNA, Anna (CV Rez)

Session Classification: Session I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Track Classification: I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Contribution ID: 4

Type: **not specified**

ID-4: Coolant interactions with fuel and structural materials

Presenter: Ms RETEGAN, Teodora (Chalmers University)

Session Classification: Session I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Track Classification: I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Contribution ID: 5

Type: **not specified**

ID-5: Overview of materials research for LFR in China

Thursday, 17 October 2019 09:30 (20 minutes)

Primary author: Mr WANG, Zhiguang (Institute of Modern Physics)

Presenter: Mr WANG, Zhiguang (Institute of Modern Physics)

Session Classification: Session III: Qualification Programmes of Structural Materials for HLM Fast Reactors

Track Classification: III: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Contribution ID: 6

Type: **not specified**

ID-6: RATEN ICN status on Mechanical Properties Investigation of 316L generation IV candidate material

Tuesday, 15 October 2019 11:40 (20 minutes)

Primary author: Mr NITU, Alexandru (RATEN ICN)

Presenter: Mr NITU, Alexandru (RATEN ICN)

Session Classification: Session I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Track Classification: I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Contribution ID: 7

Type: **not specified**

ID-7: Simulations of some Structural Materials Behaviour under Neutron Irradiation

Tuesday, 15 October 2019 13:20 (30 minutes)

Primary author: Ms GUGIU, Elena Daniela (RATEN ICN)

Presenter: Ms GUGIU, Elena Daniela (RATEN ICN)

Session Classification: Session I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Track Classification: I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Contribution ID: 8

Type: **not specified**

ID-8: Evaluation of the high-entropy Cr-Fe-Mn-Ni alloys compatibility with a molten lead coolant

Wednesday, 16 October 2019 12:20 (30 minutes)

Primary author: Mr VOYEVODIN, Viktor (KIPT)

Presenter: Mr VOYEVODIN, Viktor (KIPT)

Session Classification: Session II: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Track Classification: II: Qualification Programmes of Structural Materials for HLM Fast Reactors

Contribution ID: 9

Type: **not specified**

ID-9: The effect of lead bismuth eutectic on structural materials for the accelerator driven system MYRRHA

Thursday, 17 October 2019 09:50 (20 minutes)

Presenter: Mr STERGAR, Erich (SCK•CEN)

Session Classification: Session III: Qualification Programmes of Structural Materials for HLM Fast Reactors

Track Classification: III: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Contribution ID: 10

Type: **not specified**

ID-10: Qualification programme of candidate materials for ALFRED

Thursday, 17 October 2019 10:10 (30 minutes)

Primary author: Ms BASSINI, Serena (ENEA)

Presenter: Ms BASSINI, Serena (ENEA)

Session Classification: Session III: Qualification Programmes of Structural Materials for HLM Fast Reactors

Track Classification: III: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Contribution ID: 11

Type: **not specified**

ID-11: Vacancy type defects behavior in materials foreseen for liquid metal cooled fast reactors

Tuesday, 15 October 2019 13:50 (30 minutes)

Primary author: SLUGEN, Vladimir Slugen (Slovak University of Technology)

Presenter: SLUGEN, Vladimir Slugen (Slovak University of Technology)

Session Classification: Session I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Track Classification: I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Contribution ID: 12

Type: **not specified**

ID-12: RESEARCH OF CORROSION BEHAVIOUR OF STEAM GENERATOR TUBES

Tuesday, 15 October 2019 14:20 (30 minutes)

Primary author: SHUTKO, Kirill (NIKIET)

Presenter: SHUTKO, Kirill (NIKIET)

Session Classification: Session I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Track Classification: I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Contribution ID: 13

Type: **not specified**

ID-13: Corrosion and Mechanical Testing of Alumina Forming Austenites for Liquid Lead Applications

Wednesday, 16 October 2019 11:20 (30 minutes)

Primary author: Mr DÖMSTEDT, Peter (KTH)

Presenter: Mr DÖMSTEDT, Peter (KTH)

Session Classification: Session II: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Track Classification: II: Qualification Programmes of Structural Materials for HLM Fast Reactors

Contribution ID: 14

Type: **not specified**

ID-14: Multifunctional Nano-Ceramic Coatings for Next Generation Nuclear Reactors

Wednesday, 16 October 2019 11:50 (30 minutes)

(videoconference)

Primary author: Mr DI FONZO, Fabio (CNCT)

Presenters: Mr DI FONZO, Fabio (CNCT); Mr VANAZZI, Matteo (CNCT)

Session Classification: Session II: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Track Classification: II: Qualification Programmes of Structural Materials for HLM Fast Reactors

Contribution ID: 16

Type: **not specified**

ID-16: Some new R&D focus in structure materials licensing for the SVBR-100 reactor facilities

Thursday, 17 October 2019 11:00 (30 minutes)

Presenter: DEDUL, Alexander (AKME-Engineering)

Session Classification: Session III: Qualification Programmes of Structural Materials for HLM Fast Reactors

Track Classification: III: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Contribution ID: 18

Type: **not specified**

ID-18: Tensile testing of sub sized T91 steel specimens in liquid lead

Wednesday, 16 October 2019 09:30 (30 minutes)

Primary author: TUCEK, Kamil (European Commission, Joint Research Centre)

Presenter: TUCEK, Kamil (European Commission, Joint Research Centre)

Session Classification: Session I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Track Classification: I: HLM Compatibility with Structural Materials: Phenomena, Modelling and Operational Experience

Contribution ID: 19

Type: **not specified**

ID-19: Title Design and Material Selection for Leak-Before Break Nature of Double Walled Once Through Steam Generators in Lead-Bismuth Cooled Fast Reactors

Wednesday, 16 October 2019 14:00 (30 minutes)

Presenter: Mr LEE, Jung Hwan (UNIST)

Session Classification: Session II: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Track Classification: II: Qualification Programmes of Structural Materials for HLM Fast Reactors

Contribution ID: 20

Type: **not specified**

ID-20: Compatibility Evaluation on Structural Materials in Oxygen Controlled Lead-Bismuth Eutectic at 500C

Wednesday, 16 October 2019 14:30 (30 minutes)

Primary author: Mr JIANG, Zhizhong (INEST)

Presenter: Mr JIANG, Zhizhong (INEST)

Session Classification: Session II: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Track Classification: II: Qualification Programmes of Structural Materials for HLM Fast Reactors

Contribution ID: 21

Type: **not specified**

ID-21: Development of alumina forming materials for corrosion mitigation in heavy liquid metal cooled nuclear reactors

Wednesday, 16 October 2019 15:00 (30 minutes)

Primary author: Mr WEISENBURGER, Alfons (KIT)

Presenter: Mr WEISENBURGER, Alfons (KIT)

Session Classification: Session II: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Track Classification: II: Qualification Programmes of Structural Materials for HLM Fast Reactors

Contribution ID: 22

Type: **not specified**

ID-22: Corrosion of steel claddings of fast reactors fuel elements in the interaction with uranium-plutonium nitride fuel.

Wednesday, 16 October 2019 15:50 (30 minutes)

Presenter: Mr IVANOV, Alexander (Kurchatov Institute)

Session Classification: Session II: Corrosion Mitigation Measures: Coating, New Structural Materials, Environmental Conditioning

Track Classification: II: Qualification Programmes of Structural Materials for HLM Fast Reactors

Contribution ID: 23

Type: **not specified**

Opening remarks by IAEA

Tuesday, 15 October 2019 10:00 (10 minutes)

Presenter: MONTI, Stefano (IAEA)

Session Classification: Opening

Contribution ID: 24

Type: **not specified**

Self-Introduction of the participants

Tuesday, 15 October 2019 10:10 (10 minutes)

Session Classification: Opening

Contribution ID: 25

Type: **not specified**

Nomination of the Chairperson

Tuesday, 15 October 2019 10:20 (5 minutes)

Session Classification: Opening

Contribution ID: 26

Type: **not specified**

Discussion and Approval of the Agenda

Tuesday, 15 October 2019 10:25 (5 minutes)

Session Classification: Opening

Contribution ID: 27

Type: **not specified**

Meeting Objectives and Introduction of IAEA Activities on Fast Reactors Technology

Tuesday, 15 October 2019 10:30 (20 minutes)

Primary author: KRIVENTSEV, Vladimir (IAEA)

Presenter: KRIVENTSEV, Vladimir (IAEA)

Session Classification: Opening

Contribution ID: 28

Type: **not specified**

Meeting Report, Closing Remarks, Final document publication etc.

Thursday, 17 October 2019 14:30 (1h 30m)

Primary author: KRIVENTSEV, Vladimir (IAEA)

Co-author: BATRA, Chirayu (IAEA)

Presenters: BATRA, Chirayu (IAEA); KRIVENTSEV, Vladimir (IAEA)

Session Classification: Closing Discussion

Contribution ID: 29

Type: **not specified**

IAEA Publications: Rules and Guidance

Tuesday, 15 October 2019 16:30 (30 minutes)

Presenters: Ms HASLINGER, Katja (IAEA Publications Officer); Ms GULLEY, Nicola (IAEA: Section Head (Publishing))

Session Classification: Wrap-Up

Contribution ID: **30**

Type: **not specified**

Topic: Outstanding Research Challenges

Tuesday, 15 October 2019 15:10 (1 hour)

Session Classification: Group Discussion

Contribution ID: **31**

Type: **not specified**

Topic: New Materials and Coating Techniques

Wednesday, 16 October 2019 16:20 (1 hour)

Session Classification: Group Discussion

Contribution ID: 32

Type: **not specified**

Topic: Industrialization

Thursday, 17 October 2019 13:30 (1 hour)

Session Classification: Group Discussion

Contribution ID: 33

Type: **not specified**

Wrap up of Day 1

Tuesday, 15 October 2019 17:00 (10 minutes)

Presenter: Ms GUGIU, Elena Daniela (RATEN ICN)

Session Classification: Wrap-Up

Contribution ID: 34

Type: **not specified**

The status of the IAEA CRP on Fuel Materials for Fast Reactors (FMFR)

Tuesday, 15 October 2019 16:10 (20 minutes)

Presenter: VESHCHUNOV, Mikhail (IAEA)

Session Classification: Wrap-Up