

Draft agenda

PuMMA Workshop on Fuel Properties

Bologna, Italy, 15-16 June 2023

SavHotel

Via Ferruccio Parri, 9, 40128 Bologna BO, Italia

Version N°8

For remote participation join the link [here](#)

Organized by:

Organised by ENEA (Alessandro Del Nevo, Pietro Arenas) JRC, (Dragos Staicu), CEA (Nathalie Chauvin), LGI (Mina Lazarevic, Mariana Terreros, Pauline Assadi)

For registration [link](#)

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Day 1 - Workshop on fuel properties, 15 June 2023 in Bologna

Welcome			
9h30	5 min	1. Welcome from the organizers	A. Del Nevo (ENEA)
9h35	10 min	3. Introduction	N. Chauvin (CEA)
FPC : needs on fuel properties and model: summary of previous programs: Pellgrimm, inspire, esnii+, esfr-smart			
9h45	30 min	Impact of fuel properties on the results, feedback from benchmark exercises	V. Blanc (CEA)
10h15	30 min	Overview of activities with Fuel Performance Codes in the last 10 years	A. Magni (POLIMI)
10h45	30 min	Needs from FPC on fuel properties	T. Barani (CEA)
11h15	Coffee break (25 min)		
Experimental data on fuel properties, international framework			
11h40	30 min	Data base THERPRO	T. Jevremovic (IAEA)
12h10	30 min	European programme & OECD activities on fuel properties	N. Chauvin (CEA), S. Dragos (JRC)
13h	Lunch		
Overview on knowledge on MOX fuel properties : experimental device, data, theoretical approach, validated laws, effect of irradiation			
Part 1 : fuel thermal properties			
14h00	45 min	Lattice parameter and thermal expansion	R. Caprani (CEA)-P. Martin(CEA)
14h45	30 min	Melting temperature	MM. Desagulier (CEA)
15h15	30 min	Heat capacity	R. Konings (JRC-Karlsruhe)
15h45	Coffee break (15 min)		
16h00	30 min	Thermal diffusivity and conductivity	M. Khafizov (Ohio State University)



16h30	30 min	Thermal diffusivity and conductivity measurements :	D. Staicu (JRC)
17h00	30 min	Oxygen potential /Thermodynamic properties / phase diagram	C. Gueneau (CEA)
Conclusion day 1			
17h30	10 min		

Day 2 - Workshop on fuel properties, 16 June 2023 in Bologna

Overview on knowledge on MOX fuel properties : experimental device, data, theoretical approach, validated laws, effect of irradiation			
Part 2 : fuel mechanical properties			
9h00	30 min	Elastic properties	T. Saleh (LANL)
9h30	30 min	Non-elastic, thermodynamical data, diffusion	S. Elbez (CEA), B. Michel (CEA), A. Socié (CEA)
Experimental data on fuel properties, international framework – presentation of PhD students and postdocs work and future needs			
10h00	10 min	PhD session - Multi-dimensional modeling porosity migration and central void formation with OFFBEAT	E. Luciano Brunetto (EPFL)
10h10	10 min	PhD session - Fuel properties modelling (fresh and irradiated fuels))	G. Porto (CEA)
10h20	10 min	PhD session - Manufacturing and structural, microstructural, thermodynamic properties measurements on (U,Pu)O _{2-x} mixed oxides with high Pu content (> 0.60)	M.-M. Desagulier (CEA)
10h30	10 min	PhD session - Advancements in the modelling of high-enriched Plutonium MOX fuel	D. Jaramillo (POLIMI - ENEA)





10h40	10 min	PhD session - Study of the oxidation of UO ₂ at high temperature in an Ar-O ₂ atmosphere	P. Berenguer-Besnard (CEA) Virtual
10h50	10 min	PhD session New Recommendation on the effect of burn up on thermal conductivity	P. Bonev (CEA)
11h00	10 min	Q&A session on PhD presentations	
11h10	30 min	Feed-back and future needs: devices, characterisations, experimental protocole, measurements	S. Pavlov (INL)
11h40	Coffee break (15 min)		
Fuel properties modelling (fresh and irradiated fuels)			
11h55	30 min	Mechanistic approach	P. Bonev (CEA)
12h25	30 min	Atomistic approach	G. Porto (CEA)
12h45	20 min	Implementation of properties models in fuel performance codes	L. Luzzi (Polimi)
13h05	Lunch		
Other fuels			
14h00	30 min	Nitride fuel properties	J. Wallenius (KTH)
14h30	30 min	Metal fuel properties	<i>T. Ogata CRIEPI</i>
15h00	30 min	Effect of minor actinide on O, M, N, C fuels properties	T. Wiss (JRC)
Conclusion			
15h30	30 min	Conclusions	All
16h00	Workshop is closed		