



AGENDA

27th International QUENCH Workshop*

Karlsruhe Institute of Technology, Campus North, H.-von-Helmholtz-Platz 1, 76344 Egg.-Leopoldshafen, Germany
27-29 September 2022

Meeting Location: Fortbildungszentrum für Technik und Umwelt (FTU), Auditorium (Aula)

Tuesday, 27 Sep 2022

8:10	Pick-up at the hotel Kübler	
8:30	Registration	
9:00	Welcome	W. Tromm/M. Steinbrück, KIT
	<u>QUENCH PROGRAM: RECENT RESULTS</u> (Chair: M. Steinbrück, KIT)	
9:20	Update of the QUENCH Program	M. Steinbrück, KIT
9:40	First results of the QUENCH-ATF1 bundle test with Cr coated optimized ZIRLO claddings	J. Stuckert, KIT
10:10	First Results of the post-test examinations of the QUENCH-ATF-1 claddings by means of neutron imaging	M. Grosse, KIT
10:30	Coffee break (Group Photo)	
	<u>ATF CLADDING I</u> (Chair: M. Grosse, KIT)	
11:00	ATF related activities at OECD/NEA	J.-F. Martin, OECD-NEA
11:20	Accident Tolerant Fuel: Cr Coated Cladding Development at Westinghouse	L. Czerniak, WEC
11:40	Degradation mechanisms of the most promising ATF cladding concepts	M. Steinbrück, KIT
12:10	High-temperature behavior of accident-tolerant control rods clad with Zr alloy during BDBA and SA leading to reaction with molten fuel	K. Nakamura, CRIEPI
12:30	Lunch	
	<u>ATF CLADDING II</u> (Chair: J.-F. Martin, OECD-NEA)	
13:30	Safety envelop study of Cr-coated Zircaloy ATF via SNU's integral LOCA experiment	Y. Lee, SNU
14:00	Effect of Cr content on the on-cooling phase transformations and induced prior- β Zr mechanical hardening and failure mode (in relation with E-ATF Cr Coated Zr-based claddings behavior upon and after high temperature transients)	J.-C. Brachet, CEA
14:30	CrNi-alloy as a cladding material for nuclear fuel	J. Krejci, UJP

* In Cooperation with the International Atomic Energy Agency (IAEA)

14:50	Coffee break	
	EXPERIMENTS (Chair: J. Stuckert, KIT)	
15:20	UHT Test Facility Updates and Oxidation Tests for Accident Tolerant Fuel Developments	G. Wang, WEC
15:45	Burst and oxidation tests on bare and pre-oxidized claddings	C. Duriez, IRSN
16:10	Ballooning and Burst Measurement of Nuclear Fuel Claddings	R. Nagy, CER-EK
16:30	Overview on COSMOS Facility on thermal-hydraulic phenomena in nuclear reactors	S. Gabriel, KIT
17:00	Bus transfer to the hotel	

Wednesday, 28 Sep 2022

8:30	Pick-up at the hotel Kübler	
	MODELLING AND CODE APPLICATION I (Chair: C. Allison, ISS)	
9:00	Preliminary simulation results of the experiments QUENCH-L3HT and QUENCH-ATF-1 regarding high-temperature oxidation mechanisms using the system code AC ²	G.T. Stahlberg, RUB
9:20	Preliminary Analysis of the QUENCH-19 Test by means of the ASTEC Code	F. Gabrielli, KIT
9:40	Simulation of QUENCH-19 and QUENCH-20 with AC ² /ATHLET-CD	T. Hollands, GRS
10:10	Preliminary Modelling Results Of QUENCH-20 Test Using RELAP/SCDAPSIM code	T. Kaliaatka, LEI
10:30	Coffee break	
	MODELLING AND CODE APPLICATION II (Chair: T. Hollands, GRS)	
11:00	First assessment of PSI nitriding model against QUENCH-air experiments	B. Jäckel, PSI
11:30	Evolution of Pressure-assisted Mis-fit Stress During the Clad Corrosion: The Materials Selection	A. Aryanfar, AUB
12:00	Estimates of the VVER-1000 Fuel Assembly Behavior and Possible In-Vessel Instrument Responses during SBO-like Conditions	C. Allison, ISS
12:30	Lunch	
13:30	Overview on LWR nuclear safety research at KIT	W. Tromm, KIT
14:00-17:00	Technical visit of QUENCH, COSMOS and SET labs	KIT
17:30	Bus to Höpfner Brewery	
ca. 21:30	Arrival at KIT and in hotel	

Thursday, 29 Sep 2022

8:30	Pick-up at the hotel Kübler	
	<u>LONG-TERM DRY STORAGE</u> (Chairs: M. Grosse, KIT/F. Boldt, GRS)	
9:00	Overview of spent fuel ageing studies and testing at JRC Karlsruhe	T. Wiss, JRC KA
9:30	SPIZWURZ project progress	F. Boldt, GRS
10:00	Update of the investigations on the hydrogen solubility and diffusivity in cladding tube materials in the framework of the SPIZWURZ project	S. Weick, KIT
10:25	Coffee break	
10:55	Understanding mechanical integrity of hydrided Zircaloy cladding for extended spent fuel management	Y. Lee, SNU
11:25	Use of advanced imaging methods for characterizing hydrogen related cladding degradation	A. Colldeweih, PSI
11:55	New test facilities at KIT for investigation of hydrogen/hydride behavior in Zr alloys	M. Grosse, KIT
12:20	Closure of the Workshop	M. Steinbrück, KIT
12:30	Lunch	
13:30	Bus for train station and hotel	
14:00	QUENCH ATF Program Review Group Meeting Building 681, Room 214 <i>Only for QUENCH-ATF PRG Members</i>	
Friday	QUENCH ATF Management Board Meeting Building 681, Room 214 <i>Only for QUENCH-ATF MB Members</i>	
9:00		