

Table of Contents

Status and Future Directions of SCWR Development	7
Challenges in the simulation of heat transfer and stability with supercritical pressure fluids	14
Tools and methods for post-irradiation examination of advanced nuclear fuel.....	17
Current state and future perspectives of Gen IV reactors research at the Faculty of Nuclear Sciences and Physical Engineering of the Czech Technical University.....	23
CVŘ Experimental Work on Gen-IV Technologies in the Frame of the SUSEN Project	26
Codes and models for Generation IV technology analyses used in CVR	34
Introduction to the capabilities of SUSEN Hot Laboratory	46
Experimental device for development and verification of methods for fuel inspections.....	54
Fuel assembly geometrical changes assessment during pool-side inspections	64
Response to load in liquid lead-bismuth of T91 and 14-19Cr ODS steels	75
Study of crack initiation in ferritic martensitic steel T91 in PbBi.....	82
Anisotropy of mechanical properties in ODS steel tubes.....	88
Microstructural evaluation of nuclear grade titanium stabilized stainless steel fuel claddings	92
Evaluation of Low Cycle Fatigue Strength of Dissimilar Weld Joint of COST F and FB2 steels for High Temperature Applications	99
Pitting corrosion on steam turbine blades steels.....	104
Magnetic Fluid as a New Couplant for Ultrasonic Defectoscopy	107
Corrosion pitting monitoring of steam turbine blades.....	110
Comparison between experimental measurement and calculations at LVR-15's BNCT beam	114
Hydrogen production by high-temperature electrolysis	125