Digital Twin Concepts with Uncertainty for Nuclear Power Applications

DOI: 10.3390/en14144235
Energies, 2021, 14, 4235.

#	Paper	IF	Citations
25	Enhancing the Operational Resilience of Advanced Reactors with Digital Twins by Recurrent Neural Networks. **2021**,		
24	Digital Twin to Detect Nuclear Proliferation: A Case Study. *Journal of Energy Resources Technology, Transactions of the ASME*, **2022**, 144,	2.6	0
23	Materials for Sustainable Nuclear Energy: A European Strategic Research and Innovation Agenda for All Reactor Generations. *Energies*, **2022**, 15, 1845	3.1	2
22	A digital twin approach to system-level fault detection and diagnosis for improved equipment health monitoring. *Annals of Nuclear Energy*, **2022**, 170, 109002	1.7	4
21	A detailed design for a radioactive waste safety management system using ICT technologies. *Progress in Nuclear Energy*, **2022**, 149, 104251	2.3	0
20	Projecting the Thermal Response in a HTGR-Type System during Conduction Cooldown Using Graph-Laplacian Based Machine Learning. *Energies*, **2022**, 15, 3895	3.1	
19	A Digital Twin Design for Maintenance Optimization. *Procedia CIRP*, **2022**, 109, 395-400	1.8	1
18	Digital Twin for Integration of Design-Manufacturing-Maintenance: An Overview. *Chinese Journal of Mechanical Engineering (English Edition)*, **2022**, 35,	2.5	0
17	An efficient digital twin based on machine learning SVD autoencoder and generalised latent assimilation for nuclear reactor physics. **2022**, 179, 109431		1
16	Data Management for IoT and Digital Twin. **2022**, 28-45		0
15	Digital twin-driven intelligent maintenance decision-making system and key-enabling technologies for nuclear power equipment. 2, 14		1
14	Machine Learning and Artificial Intelligence-Driven Multi-Scale Modeling for High Burnup Accident-Tolerant Fuels for Light Water-Based SMR Applications. **2022**, 1-24		1
13	Physics-Informed Neural Network Solution of Point Kinetics Equations for a Nuclear Reactor Digital Twin. **2022**, 15, 7697		1
12	Parameter identification and state estimation for nuclear reactor operation digital twin. **2023**, 180, 109497		0
11	Leveraging Industry 4.0: Deep Learning, Surrogate Model, and Transfer Learning with Uncertainty Quantification Incorporated into Digital Twin for Nuclear System. **2022**, 1-20		3
10	Digital Twin and Artificial Intelligence Incorporated with Surrogate Modeling for Hybrid and Sustainable Energy Systems. **2022**, 1-23		2
9	Digital Twin for Multi-criteria Decision-Making Framework to Accelerate Fuel Qualification for Accident-Tolerant Fuel Concepts. **2022**, 1-22		1

8	Requirements for the application of the Digital Twin Paradigm to offshore wind turbine structures for uncertain fatigue analysis. **2023**, 145, 103806	0
7	Envisaged future for nuclear thermal-hydraulics. **2022**, 400, 112060	0
6	CONTROL VARIATE POLYNOMIAL CHAOS: OPTIMAL FUSION OF SAMPLING AND SURROGATES FOR MULTIFIDELITY UNCERTAINTY QUANTIFICATION. **2023**, 13, 69-100	0
5	Extending the capability of component digital threads using material passports. **2023**, 87, 245-259	0
4	Automation levels for nuclear reactor operations: A revised perspective. **2023**, 157, 104559	0
3	Using constrained-disorder principle-based systems to improve the performance of digital twins in biological systems (Preprint).	0
2	A review of the application of artificial intelligence to nuclear reactors: Where we are and what's next. **2023**, 9, e13883	0
1	A Future with Machine Learning: Review of Condition Assessment of Structures and Mechanical Systems in Nuclear Facilities. **2023**, 16, 2628	0