Thomas J Downar

List of Publications by Year
in descending order

26 papers	432 citations	840776 11 h-index	752698 20 g-index
27 all docs	27 docs citations	27 times ranked	224 citing authors

#	Article	IF	Citations
1	Stability and accuracy of 3D neutron transport simulations using the 2D/1D method in MPACT. Journal of Computational Physics, 2016, 326, 612-628.	3.8	94
2	An optimally diffusive Coarse Mesh Finite Difference method to accelerate neutron transport calculations. Annals of Nuclear Energy, 2016, 95, 116-124.	1.8	72
3	VERA Core Simulator Methodology for Pressurized Water Reactor Cycle Depletion. Nuclear Science and Engineering, 2017, 185, 217-231.	1.1	66
4	Transient analysis of C5G7-TD benchmark with MPACT. Annals of Nuclear Energy, 2019, 125, 107-120.	1.8	25
5	Implementation of Two-Level Coarse-Mesh Finite Difference Acceleration in an Arbitrary Geometry, Two-Dimensional Discrete Ordinates Transport Method. Nuclear Science and Engineering, 2008, 158, 289-298.	1.1	22
6	Cell Homogenization Method for Pin-by-Pin Neutron Transport Calculations. Nuclear Science and Engineering, 2011, 169, 1-18.	1.1	20
7	A Multilevel Quasi-Static Kinetics Method for Pin-Resolved Transport Transient Reactor Analysis. Nuclear Science and Engineering, 2016, 182, 435-451.	1.1	17
8	Analysis of the Core Power Response during a PWR Rod Ejection Transient Using the PARCS Nodal Code and the DeCART MOC Code. Nuclear Science and Engineering, 2012, 170, 151-167.	1.1	16
9	A 2-D/1-D Transverse Leakage Approximation Based on Azimuthal, Fourier Moments. Nuclear Science and Engineering, 2017, 185, 243-262.	1.1	15
10	Subplane collision probabilities method applied to control rod cusping in 2D/1D. Annals of Nuclear Energy, 2018, 118, 1-14.	1.8	13
11	Theoretical Convergence Rate Lower Bounds for Variants of Coarse Mesh Finite Difference to Accelerate Neutron Transport Calculations. Nuclear Science and Engineering, 2017, 186, 224-238.	1.1	12
12	Impact of improved neutronic methodology on the cladding response during a PWR reactivity initiated accident. Nuclear Engineering and Design, 2013, 262, 180-188.	1.7	11
13	Validation of the U.S. NRC Coupled Code System TRITON/TRACE/PARCS Using the Special Power Excursion Reactor Test III. Nuclear Technology, 2013, 183, 504-514.	1.2	9
14	Parameter Sensitivity Study of Boiling and Two-Phase Flow Models in CFD. Journal of Computational Multiphase Flows, 2012, 4, 411-425.	0.8	8
15	Fourier Convergence Analysis of the Infinite Homogenous Multigroup Time-Dependent Boltzmann Transport Equation Using Discrete Ordinates Formulation. Nuclear Science and Engineering, 2017, 186, 23-36.	1.1	5
16	Improved Accuracy in the 2-D/1-D Method with Anisotropic Transverse Leakage and Cross-Section Homogenization. Nuclear Science and Engineering, 2018, 192, 219-239.	1.1	4
17	Quasi-Diffusion Method with 3-D Cross Sections for TREAT Core Analysis. Nuclear Technology, 2020, 206, 825-838.	1.2	4
18	Validation of Pin-Resolved Reaction Rates, Kinetics Parameters, and Linear Source MOC in MPACT. Nuclear Science and Engineering, 2021, 195, 50-68.	1.1	4

#	Article	IF	Citations
19	Transient Multilevel Scheme with One-Group CMFD Acceleration. Nuclear Science and Engineering, 2021, 195, 741-765.	1.1	4
20	The Subray Method of Characteristics. Nuclear Science and Engineering, 2019, 193, 601-621.	1.1	3
21	The Legendre Polynomial Axial Expansion Method. Nuclear Science and Engineering, 2023, 197, 291-307.	1.1	3
22	Sensitivity and Uncertainty of OECD Benchmark Ringhals-1 TRACE/PARCS Stability Prediction. Nuclear Technology, 2012, 180, 383-398.	1.2	2
23	Polar Parity for Efficient Evaluation of Anisotropic Transverse Leakage in the 2D/1D Transport Method. Nuclear Science and Engineering, 2019, 193, 1291-1309.	1.1	1
24	Enhanced Lasso Regularization-Based Self-Adaptive Feature Selection Algorithm for the High-Dimensional Uncertainty Quantification of TREAT Transient Test Modeling. Nuclear Technology, 2020, 206, 839-861.	1.2	1
25	Development and Analysis of TREAT Neutronics Benchmarks. Nuclear Technology, 2020, 206, 805-824.	1.2	1
26	SP3 Limit of the 2D/1D Transport Equations with Varying Degrees of Angular Coupling. Journal of Computational and Theoretical Transport, 2020, 49, 303-330.	0.8	0