Mark DeHart

List of Publications by Year
in descending order

38 papers	788 citations	687363 13 h-index	642732 23 g-index
86 all docs	86 docs citations	86 times ranked	472 citing authors

#	Article	IF	Citations
1	Multischeme equivalence procedure for neutron transport finite element methods. Annals of Nuclear Energy, 2022, 166, 108712.	1.8	1
2	Burnable absorbers in nuclear reactors â€“ A review. Nuclear Engineering and Design, 2022, 391, 111726.	1.7	17
3	EVALUATION OF CRITICAL EXPERIMENTS IN THE UNIVERSITY OF WISCONSIN NUCLEAR REACTOR (UWNR) WITH UNCERTAINTY QUANTIFICATION. EPJ Web of Conferences, 2021, 247, 10032.	0.3	0
4	Rattlesnake: A MOOSE-Based Multiphysics Multischeme Radiation Transport Application. Nuclear Technology, 2021, 207, 1047-1072.	1.2	30
5	Coupled Multiphysics Simulations of Heat Pipe Microreactors Using DireWolf. Nuclear Technology, 2021, 207, 1142-1162.	1.2	30
6	PBMR-400 BENCHMARK SOLUTION OF EXERCISE 1 AND 2 USING THE MOOSE BASED APPLICATIONS: MAMMOTH, PRONGHORN. EPJ Web of Conferences, 2021, 247, 06020.	0.3	5
7	Validation of the Griffin application for TREAT transient modeling and simulation. Nuclear Engineering and Design, 2021, 385, 111478.	1.7	9
8	A diffusion synthetic acceleration approach to k-eigenvalue neutron transport using PJFNK. Annals of Nuclear Energy, 2020, 148, 107714.	1.8	7
9	A Highly Parallel Multilevel Newton--Krylov--Schwarz Method with Subspace-Based Coarsening and Partition-Based Balancing for the Multigroup Neutron Transport Equation on Three-Dimensional Unstructured Meshes. SIAM Journal of Scientific Computing, 2020, 42, C193-C220.	2.8	4
10	Impact of grain size on performance degradation of TREAT LEU. Annals of Nuclear Energy, 2020, 139, 107294.	1.8	0
11	Hybrid super homogenization and discontinuity factor method for continuous finite element diffusion. Annals of Nuclear Energy, 2019, 128, 443-454.	1.8	18
12	A Weighted Least-Squares Transport Equation Compatible with Source Iteration and Voids. Nuclear Science and Engineering, 2019, 193, 388-403.	1.1	3
13	Control rod treatment for FEM based radiation transport methods. Annals of Nuclear Energy, 2019, 127, 293-302.	1.8	15
14	A Coupled Multiscale Approach to TREAT LEU Feedback Modeling Using a Binary-Collision Monte-Carloâ€“Informed Heat Source. Nuclear Science and Engineering, 2019, 193, 368-387.	1.1	5
15	On the effects of pre- and post-transient rod positions for TREAT temperature-limited transient powers. Nuclear Engineering and Design, 2018, 331, 97-102.	1.7	1
16	A fully coupled twoâ€level Schwarz preconditioner based on smoothed aggregation for the transient multigroup neutron diffusion equations. Numerical Linear Algebra With Applications, 2018, 25, e2162.	1.6	9
17	A Newton solution for the Superhomogenization method: The PJFNK-SPH. Annals of Nuclear Energy, 2018, 111, 579-594.	1.8	21
18	Investigations of Rod Positions for Treat M8CAL Analyses. Journal of Nuclear Engineering and Radiation Science, 2018, 4, .	0.4	3

#	Article	IF	Citations
19	Enhanced geometric capabilities for the transient analysis code T-ReX and its application to simulating TREAT experiments. Progress in Nuclear Energy, 2018, 105, 236-246.	2.9	5
20	Fuel element design and analysis for potential LEU conversion of the Advanced Test Reactor. Progress in Nuclear Energy, 2018, 104, 117-135.	2.9	4
21	Evaluation of the Enhanced LEU Fuel (ELF) Design for Conversion of the Advanced Test Reactor to a Low-Enrichment Fuel Cycle. Nuclear Technology, 2018, 201, 247-266.	1.2	1
22	A flexible nonlinear diffusion acceleration method for the S transport equations discretized with discontinuous finite elements. Journal of Computational Physics, 2017, 338, 107-136.	3.8	15
23	Hybrid PN-SN with Lagrange multiplier and upwinding for the multiscale transport capability in Rattlesnake. Progress in Nuclear Energy, 2017, 101, 381-393.	2.9	21
24	Interpretation of energy deposition data from historical operation of the transient test facility (TREAT). Nuclear Engineering and Design, 2017, 322, 504-521.	1.7	13
25	Globally Conservative, Hybrid Self-Adjoint Angular Flux and Least-Squares Method Compatible with Voids. Nuclear Science and Engineering, 2017, 185, 294-306.	1.1	16
26	Reactor Physics Scoping and Characterization Study on Implementation of TRIGA Fuel in the Advanced Test Reactor. Nuclear Technology, 2015, 189, 202-217.	1.2	2
27	A new mathematical adjoint for the modified SAAF-<mml:math xmlns:mml="http://www.w3.org/1998/Math/MathML" altimg="si28.gif" overflow="scroll"><mml:mrow><mml:msub><mml:mrow><mml:mi>S</mml:mi></mml:mrow><mml:mrow><mml:mi>N</mml:mi></mml:mrow></mml:msub></mml:mrow></mml:math> equations. Annals of Nuclear Energy, 2015, 75, 340-352.	1.8	14
28	Physics-based multiscale coupling for full core nuclear reactor simulation. Annals of Nuclear Energy, 2015, 84, 45-54.	1.8	184
29	Diffusion Acceleration Schemes for Self-Adjoint Angular Flux Formulation with a Void Treatment. Nuclear Science and Engineering, 2014, 176, 201-225.	1.1	23
30	Nonlinear Acceleration of a Continuous Finite Element Discretization of the Self-Adjoint Angular Flux Form of the Transport Equation. Nuclear Science and Engineering, 2013, 175, 213-226.	1.1	5
31	Reactor Physics Methods and Analysis Capabilities in SCALE. Nuclear Technology, 2011, 174, 196-213.	1.2	62
32	Unstructured partial- and net-current based coarse mesh finite difference acceleration applied to the extended step characteristics method in NEWT. Annals of Nuclear Energy, 2011, 38, 527-534.	1.8	20
33	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
34	Continuous-Energy MultidimensionalSNTransport for Problem-Dependent Resonance Self-Shielding Calculations. Nuclear Science and Engineering, 2006, 154, 190-201.	1.1	10
35	Validation of SCALE-4 for Burnup Credit Applications. Nuclear Technology, 1995, 110, 53-70.	1.2	11
36	An Extended Step Characteristic Method for Solving the Transport Equation in General Geometries. Nuclear Science and Engineering, 1994, 118, 79-90.	1.1	12

#	Article	IF	Citations
37	Highly vectorized algorithm for transient simulation of space reactor systems. , 0, , .		0
38	Nuclear Thermal Propulsion. , 0, , .		1