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Education

Ph.D in Nuclear Science and Technology, Xi'an Jiaotong Univ., 2007.9 – 2013.3

B.S. in Nuclear Science and Nuclear Technology, Xi'an Jiaotong Univ., 2003.9 – 2007.7

Working Experiences

Asso. Prof. in Nuclear Science and Technology, Xi'an Jiaotong Univ., 2016.1 to present

Lecturer in Nuclear Science and Technology, Xi'an Jiaotong Univ., 2013.3-2015.12

Visiting Pre-Doctoral Fellow, 2010.10-2012.9

    Department of Mechanical Engineering, Northwestern University

    Nuclear Engineering Division, Argonne National Laboratory

Research Interests

Development of PWR-core fuel management calculation code system NECP-Bamboo

PWR two-step/pin-by-pin core analysis methods

Neutronics transport/diffusion theory and its numerical methods

Recent Publications

[01]. **Yunzhao Li**, Bin Zhang, Qingming He, Dongyong Wang, Hongchun Wu, Liangzhi Cao and Wei Shen. Development and verification of PWR-core fuel management calculation code system NECP-Bamboo: Part I Bamboo-Lattice. Nuclear Engineering and Design 335:432–440, 2018.

[02]. **Yunzhao Li**, Zhipeng Li, Hongchun Wu and Youqi Zheng. Improved Variational Nodal Method based on symmetry group theory. Nuclear Science and Engineering, 190(2):134-155, 2018.

[03]. **Yunzhao Li**, Bin Zhang, Hongchun Wu, Wei Shen. Heterogeneous neutron-leakage model for PWR pin-by-pin calculation. Annals of Nuclear Energy, 110:443-452, 2017.

[04]. Jie Li, **Yunzhao Li**, Qi Zheng, Wei Shen. A weighted Monte Carlo solution of the neutron kinetics equations. *M&C2017*, Jeju, Korea, April 15-20, 2017.

[05]. **Yunzhao Li**, Kai Huang, Hongchun Wu, Liangzhi Cao. A depletion system compression method based on quantitative significance analysis. *Nucl. Sci. Eng.* 187(1):49-69, 2017.

[06]. **Yunzhao Li**, Chao Fang, Hongchun Wu, Liangzhi Cao and Guoshu Zhang. Pn-FEM method for solving the first-order neutron transport equation. *Trans. Am. Nucl. Soc.*, 2016, 115.

[07]. **Yunzhao Li**, Zhipeng Li, Hongchun Wu and Liangzhi Cao. Improved variable-transformation algorithm for the hexagonal Variational Nodal Method. *Trans. Am. Nucl. Soc.*, 2016, 115.

[08]. **Yunzhao Li**, Wen Yang, Hongchun Wu and Liangzhi Cao. NECP-Cypress: Development and benchmarking of a 3D PWR core-analysis code. *Trans. Am. Nucl. Soc.*, 2016, 114.

[09]. **Yunzhao Li**, Qingming He, Liangzhi Cao, Hongchun Wu and Tiejun Zu. Resonance elastic scattering and interference effects treatments in Subgroup Method. *Nucl. Eng. Tech.,* 2016.

[10]. **Yunzhao Li**, Shengnan Gao, Hongchun Wu, Liangzhi Cao and Wei Shen. PWR few-group constants parameterization analysis. *Prog. Nucl. Energy*, 2016, 88:104-117.

[11]. **Yunzhao Li**, Yongping Wang, Hongchun Wu, et al. Heterogeneous Variational Nodal Methods for eliminating the control rod cusping effect. *Trans. Am. Nucl. Soc.*, 2015, 113:711-714.

[12]. **Yunzhao Li**, Yongping Wang, Boning Liang, et al. Partitioned-Matrix acceleration to the Fission-Source iteration of the Variational Nodal Method. *Prog. Nucl. Energy*. 2015, 85:640-647.

[13]. **Yunzhao Li**, Chao Tian, Youqi Zheng, et al. NECP-Cacti: Pressurized Water Reactor lattice code development. *Trans. Am. Nucl. Soc.*, 2015, 112:814-816.

[14]. Yunzhao Li, Shengnan Gao, Hongchun Wu, et al. Comparison of cross-section models for functionalization and history effect. *Trans. Am. Nucl. Soc.*, 2015, 112:723-726.

[15]. **Yunzhao Li**, E. E. Lewis, Micheal A. Smith, et al. Preconditioned multigroup GMRES algorithms for the Variational Nodal Method. *Nucl. Sci. Eng.*, 2015, 179(1):42-58.

[16]. **Yunzhao Li**, Bin Zhang, Hongchun Wu, et al. Improvements to the SP3 discontinuity factors in PWR pin-by-pin calculation. *Trans. Am. Nucl. Soc.*, 2014, 111:1409-1411.

[17]. **Yunzhao Li**, Liangzhi Cao and Xianbao Yuan. High order source approximation for the EFEN method. *Physor2014*, Kyoto, Japan, Sept. 28-Oct. 3, 2014.

[18]. **Yunzhao Li**, Hongchun Wu, Liangzhi Cao. Unstructured triangular nodal-SP3 method based on an exponential function expansion. *Nucl. Sci. Eng.*, 2013, 174(2):163-171.

[19]. E. E. Lewis, **Yunzhao Li**, Micheal A. Smith, et al. Preconditioned Krylov solution of response matrix equations. *Nucl. Sci. Eng.*, 2013, 173(3):222-232.

[20]. **Yunzhao Li**. Advanced reactor core neutronics computational algorithms based on the variational nodal and nodal SP$_3$ methods. Xi'an, China: Xi'an Jiaotong University, 2013.

Professional Affiliations

PC member of Chinese Computational Physics Society (Monte Carlo Division)