

LIST OF PUBLICATIONS

Dr. Richard Vasques

24. R. Vasques, R.N. Slaybaugh. “Simplified P_N equations for nonclassical transport with isotropic scattering.” *Preprint accepted to M&C 2017: International Conference on Mathematics & Computational Methods Applied to Nuclear Science & Engineering* (2017).
arxiv:1610.04314 [nucl-th]
23. R. Vasques, K. Krycki, R.N. Slaybaugh. “Nonclassical particle transport in one-dimensional random periodic media.” *Nuclear Science and Engineering* **185**(1): 78–106 (2017).
22. M. Wollmann da Silva, R. Vasques, B.E.J. Bodmann, M.T. Vilhena. “A nonstiff solution for the stochastic neutron point kinetics equations.” *Annals of Nuclear Energy* **97**: 47–52 (2016).
21. R. Vasques, R.N. Slaybaugh, K. Krycki. “Nonclassical particle transport in the 1-D diffusive limit.” Proceedings of the 2016 ANS Meeting in New Orleans, LA, June 2016. *Transactions of the American Nuclear Society* **114**: 361–364 (2016).
20. R. Vasques. “The nonclassical diffusion approximation to the nonclassical linear Boltzmann equation.” *Applied Mathematics Letters* **53**: 63–68 (2016).
19. M. Wollmann da Silva, B.E.J. Bodmann, M.T. Vilhena, R. Vasques. “The solution of the neutron point kinetics equation with stochastic extension: an analysis of two moments.” Proceedings of the 7th International Nuclear Atlantic Conference in São Paulo, Brazil, October 2015.
18. M. Frank, K. Krycki, E.W. Larsen, R. Vasques. “The nonclassical Boltzmann equation, and diffusion-based approximations to the Boltzmann equation.” *SIAM Journal on Applied Mathematics* **75**(3): 1329–1345 (2015).
17. M. Wollmann da Silva, B.E.J. Bodmann, M.T. Vilhena, R. Vasques. “Influence of stochastic moments in the solution of the neutron point kinetics equation.” In: C. Constanda, A. Kirsch (eds.): *Integral Methods in Science and Engineering*, Springer: Birkhauser Basel, pp 613–624 (2015).
16. R. Vasques, K. Krycki. “On the accuracy of the non-classical transport equation in 1-D random periodic media.” Proceedings of Joint International Conference on Mathematics and Computation, Supercomputing in Nuclear Applications and the Monte Carlo Method in Nashville, TN, April 2015.
15. R. Vasques, N.K. Yadav. “Adjusted Levermore-Pomraning equations for diffusive random systems in slab geometry.” *Journal of Quantitative Spectroscopy & Radiative Transfer* **154**: 98–112 (2015).
14. R. Vasques. “Nuclear energy is renewable energy.” *Energy Research Journal* **5**(2): 41–42 (2014).
13. R. Vasques, E.W. Larsen. “Non-classical particle transport with angular-dependent path-length distributions. I: Theory.” *Annals of Nuclear Energy* **70**: 292–300 (2014).
12. R. Vasques, E.W. Larsen. “Non-classical particle transport with angular-dependent path-length distributions. II: Application to pebble bed reactor cores.” *Annals of Nuclear Energy* **70**: 301–311 (2014).
11. R. Vasques. “Estimating anisotropic diffusion of neutrons near the boundary of a pebble bed random system.” Proceedings of International Conference on Mathematics and Computational Methods Applied to Nuclear Science & Engineering in Sun Valley, ID, May 2013.
10. E.W. Larsen, R. Vasques. “A generalized linear Boltzmann equation for non-classical particle transport.” *Journal of Quantitative Spectroscopy & Radiative Transfer* **112**: 619–631 (2011).

9. R. Vasques, E.W. Larsen. “Anisotropic diffusion in model 2-D pebble-bed reactor cores.” Proceedings of International Conference on Advances in Mathematics, Computational Methods, and Reactor Physics in Saratoga Springs, NY, May 2009.
8. E.W. Larsen, R. Vasques, M.T. Vilhena. “Particle transport in the 1-D diffusive atomic mix limit.” Proceedings of Mathematics and Computation, Supercomputing, Reactor Physics and Nuclear and Biological Applications in Avignon, France, September 2005.
7. R. Vasques, M.T. Vilhena, M. Thompson, E.W. Larsen. “State of the art of particle transport theory in stochastic media.” Proceedings of XXV CILAMCE: Iberian Latin American Congress on Computational Methods in Engineering in Recife, Brazil, November 2004.
6. A.V. Cardona, R. Vasques, M.T. Vilhena. “Uma nova versão do método LTA_n .” *TEMA: Trends in Applied and Computational Mathematics* **5**(1): 49–54 (2004).
5. A.V. Cardona, R. Vasques, J.V.P. Oliveira. “Solução LTA_n para o problema de transporte em uma placa com uma fonte arbitrária e altas ordens de quadratura.” Proceedings of XXVI CNMAC: Congresso Nacional de Matemática Aplicada e Computacional in São José do Rio Preto, Brazil, September 2003.
4. A.V. Cardona, R. Vasques. “Aumentando a eficiência computacional do Método LTA_n .” Proceedings of XXVI CNMAC: Congresso Nacional de Matemática Aplicada e Computacional in São José do Rio Preto, Brazil, September 2003.
3. R. Vasques, C.F. Segatto, M.T. Vilhena. “The LTS_n solution for the neutron transport equation in spherical geometry.” Proceedings of 18th ICTT: International Conference on Transport Theory in Rio de Janeiro, Brazil, July 2003.
2. A.V. Cardona, M.T. Vilhena, J.V.P. Oliveira, R. Vasques. “The one-dimensional LTA_n solution in a slab with high order of quadrature.” Proceedings of 18th ICTT: International Conference on Transport Theory in Rio de Janeiro, Brazil, July 2003.
1. J.R. Zabadal, R. Vasques, A. Haag, C.F. Segatto. “Simulação da dispersão de poluentes em meio aquático usando álgebra de Lie.” *Ciência & Natura* **Ep**: 145–156 (2002).