Complete list of publications of Dr. Asatur Khurshudyan

Books:

1. A. S. Avetisyan, **As. Zh. Khurshudyan** (2018), *Controllability of Dynamic Systems: The Green's Function Approach*[1]. Cambridge Scholars Publishing, Cambridge.

Chapters:

1. A. S. Avetisyan, **As. Zh. Khurshudyan**, S. K. Ohanyan (2016), Improved Mechanical Reduced Order Model and Finite Element Analysis of Three-Dimensional Deformations of Epithelial Tissues. In "Perusal of Finite Element Method" ed. by R. Petrova, pp. 133–159.

2. A. S. Avetisyan, **As. Zh. Khurshudyan** (2017), On justification of Ambartsumyan's plate theory via $\Gamma-$convergence. In "Problems of Mechanics of Deformable Solid Body", dedicated to the 95$^{\text{th}}$ anniversary of Academician of NAS of Armenia, Sergey A. Ambartsumyan. Institute of Mechanics, NAS of Armenia, pp. 151–158.

3. T. A. Galichyan, **As. Zh. Khurshudyan** (2017), Parameter optimization for laminated multiferroic composites[2]. In "Problems of Mechanics of Deformable Solid Body", dedicated to the 95$^{\text{th}}$ anniversary of Academician of NAS of Armenia, Sergey A. Ambarcumyan. Institute of Mechanics, NAS of Armenia, pp. 159–166.

Articles:

A) Publications with Peer-Review Process

1. A. S. Avetisyan, **As. Zh. Khurshudyan** (2021), Benchmarking the influence of moving follower load on linear and nonlinear Euler-Bernoulli and Timoshenko beams[3]. ZAMM, accepted.

[1]The book has been awarded the President's Prize of the Republic of Armenia for 2018 in the area of Technical Sciences and Information Technologies.

[2]The paper has been nominated as the best manuscript published in "Proceedings of NAS of Armenia. Mechanics" and in "Problems of Mechanics of Deformable Solid Body" during 2017 year and has been awarded S. A. Ambarcumyan special prize from National Committee of Theoretical and Applied Mechanics of Armenia.

[3]Dedicated to Professor Mels V. Belubekyan on the Occasion of His 85$^{\text{th}}$ Birthday

2. S. H. Jilavyan, E. R. Grigoryan, **As. Zh. Khurshudyan** (2021), Heating control of a finite rod with a mobile source. Archives of Control Sciences, vol. 31 (LXVII), issue 2, pp. 417–430.

3. **As. Zh. Khurshudyan** (2021), The meso-scale behavior of particle-reinforced thermo-elastic composites[4]. Continuum Mechanics and Thermodynamics, vol. 33, issue 4, 1363-1374.

4. A. S. Avetisyan, S. S. Chopuryan, **As. Zh. Khurshudyan** (2021), A meso-scale model for particle reinforced Timoshenko beam. Proceedings of NAS of Armenia. Mechanics, vol. 74, issue 1, pp. 6–14.

5. J. Klamka, **As. Zh. Khurshudyan** (2021), Approximate controllability of second order infinite dimensional systems. Archives of Control Sciences, vol. 31 (LXVII), issue 1, pp. 165–184.

6. J. Klamka, A. S. Avetisyan, **As. Zh. Khurshudyan** (2020), Exact and approximate distributed controllability of the KdV and Boussinesq equations: The Green's function approach. Archives of Control Sciences, vol. 30 (LXVI), issue 1, pp. 177–193.

7. **As. Zh. Khurshudyan** (2020), An identity for the Heaviside function and its application in representation of nonlinear Green's function. Computational & Applied Mathematics, vol. 39, 32, 12 pages.

8. **As. Zh. Khurshudyan** (2020), A mesoscopic model for particle reinforced composites. Continuum Mechanics and Thermodynamics, vol. 32, pp. 1057–1071.

9. **As. Zh. Khurshudyan** (2019), Derivation of a mesoscopic model for nonlinear particle reinforced composites from fully microscopic model. Acta Mechanica, vol. 230, issue 10, pp. 3543 – 3554.

10. J. Klamka, **As. Zh. Khurshudyan** (2019), Averaged controllability of heat equation in unbounded domains with uncertain geometry and location of controls: The Green's function approach. Archives of Control Sciences, vol. 29 (LXV), issue 4, pp. 573–584.

11. A. S. Avetisyan, **As. Zh. Khurshudyan** (2019), Averaged controllability of Euler-Bernoulli beam structures with random parameters: The Green's function approach. Proceedings of NAS of Armenia. Mechanics, vol. 72, issue 4, pp. 6–16.

12. M. Frasca, **As. Zh. Khurshudyan** (2019), A general representation for the Green's function of second order nonlinear differential equations. Computational and Mathematical Methods, vol. 1, issue 4, e1038, 11 pages.

[4]Invited paper for the special issue dedicated to the 65th anniversary of Professor Holm Altenbach.

13. M. Hossain, **As. Zh. Khurshudyan** (2019), Controlling power consumption in a heterogeneous population model of TCLs with diffusion: The Green's function approach. Mathematics, vol. 7, issue 6, 523 (8 pages).

14. T. A. Galichyan, **As. Zh. Khurshudyan**, D. A. Filippov (2019), Parameter optimization of the laminated multiferroic composites. Mechanics of Composite Materials, vol. 55, issue 2, pp. 211–218.

15. **As. Zh. Khurshudyan**, Sh. Kh. Arakelyan (2019), Resolving controls for approximate controllability of sandwich beams with uncertainty: The Green's function approach. Mechanics of Composite Materials, vol. 55, issue 1, pp. 85–94.

16. J. Bartlett, **As. Zh. Khurshudyan** (2019), Extending the algebraic manipulability of differentials[5]. DCDIS Series A: Mathematical Analysis, vol. 26, issue 3, pp. 217–230.

17. M. Hossain, **As. Zh. Khurshudyan** (2019), Heuristic control of nonlinear power systems: Application to the infinite bus problem. Archives of Control Sciences, vol. 29 (LXV), issue 2, pp. 279–288.

18. **As. Zh. Khurshudyan** (2019), Distributed controllability of heat equation in unbounded domains: The Green's function approach. Archives of Control Sciences, vol. 29 (LXV), issue 1, 57–71.

19. M. Khurshudyan, M. Hakobyan, **As. Zh. Khurshudyan** (2018), Nonlinear logarithmic interactions and a varying polytropic gas. Modern Physics Letters A, vol. 33, issue 33, 1850189 (17 pages).

20. **As. Zh. Khurshudyan** (2018), Exact and approximate controllability conditions for micro-swimmers deflection governed by electric field on a plane: The Green's function approach. Archives of Control Sciences, vol. 28 (LXIV), issue 3, pp. 335–347.

21. **As. Zh. Khurshudyan** (2018), Nonlinear Green's function method for the Tzitzéica and related equations. Journal of Modern Optics, vol. 65, issue 19, pp. 2284–2289.

22. **As. Zh. Khurshudyan** (2018), Min(max)imization of horizontal and vertical displacements of a fibre-reinforced magneto-elastic cantilever rod. ZAMM, vol. 98, issue 11, pp. 1924–1929.

23. A. S. Avetisyan, **As. Zh. Khurshudyan** (2018), Exact and approximate controllability of nonlinear dynamic systems in infinite time: The Green's function approach. ZAMM, vol. 98, issue 11, pp. 1992–2009.

[5]This paper has been reviewed in Mathematics Magazine.

24. **As. Zh. Khurshudyan**, S. K. Ohanyan (2018), Vibration suspension of Euler-Bernoulli-von Kármán beam subjected to oppositely moving loads by optimizing the placements of visco-elastic dampers. ZAMM, vol. 98, issue 8, pp. 1412-1419.

25. **As. Zh. Khurshudyan**, M. Khurshudyan (2018), Green's function solution of nonlinear wave equation depending on the absolute value of the unknown function. International Journal of Geometric Methods in Modern Physics, vol. 15, issue 10, 1850179, 11 pages.

26. M. Frasca, **As. Zh. Khurshudyan** (2018), Green's function for higher order nonlinear equations: Case studies for KdV and Boussinesq equations. International Journal of Modern Physics C, vol. 29, 1850104, 13 pages.

27. **As. Zh. Khurshudyan** (2018), Nonlinear implicit Green's functions for numerical approximation of PDEs: Generalized Burgers' equation and nonlinear wave equation with damping. International Journal of Modern Physics C, vol. 29, issue 7, 1850054, 14 pages.

28. **As. Zh. Khurshudyan** (2018), Resolving controls for the exact and approximate controllability of the viscous Burgers' equation: The Green's function approach. International Journal of Modern Physics C, vol. 29, issue 6, 1850045, 14 pages.

29. **As. Zh. Khurshudyan** (2018), New Green's functions for some nonlinear oscillating systems and related PDEs. International Journal of Modern Physics C, vol. 29, issue 4, 1850032, 9 pages.

30. **As. Zh. Khurshudyan** (2018), Nonlinear Green's functions for wave equation with quadratic and hyperbolic potentials. Advances in Mathematical Physics, vol. 2018, Article ID 7179160, 9 pages.

31. **As. Zh. Khurshudyan** (2018), Heuristic determination of resolving controls for exact and approximate controllability of nonlinear dynamic systems. Mathematical Problems in Engineering, vol. 2018, Article ID 9496371, 16 pages.

32. **As. Zh. Khurshudyan** (2018), Controllability of semi-infinite rod heating by a point source. Journal of Physics. Conference Series, vol. 991, 012045.

33. **As. Zh. Khurshudyan**, S. K. Ohanyan (2018), Vibrations of geometrically nonlinear beam subjected to two oppositely moving loads and supported by three equidistant visco-elastic dampers. Journal of Physics. Conference Series, vol. 991, 012046.

34. A. S. Avetisyan, **As. Zh. Khurshudyan** (2017), Green's function approach in approximate controllability of nonlinear physical processes. Modern Physics Letters A, vol. 32, 1730015, 7 pages.

35. M. Khurshudyan, R. Myrzakulov, **As. Zh. Khurshudyan** (2017), Interacting dark energy models in f(T) gravity. Modern Physics Letters A, vol. 32, issue 18, 1750097, 16 pages.

36. M. Khurshudyan, **As. Zh. Khurshudyan** (2017), Phenomenological modification of horizon temperature. Modern Physics Letters A, vol. 32, 1750156, 10 pages.

37. A. S. Avetisyan, **As. Zh. Khurshudyan** (2016), Green's function approach in approximate controllability problems. Mechanics. PNAS Armenia, vol. 69, issue 2, pp. 3–20.

38. **As. Zh. Khurshudyan** (2016), Generalized control with compact support of wave equation with variable coefficients. International Journal of Dynamics and Control, vol. 4, issue 4, pp. 447–455.

39. Sh. Kh. Arakelyan, **As. Zh. Khurshudyan** (2015), The Bubnov-Galerkin procedure for solving mobile control problems for systems with distributed parameters. Mechanics. PNAS Armenia, vol. 68, issue 3, pp. 54–75.

40. S. H. Jilavyan, **As. Zh. Khurshudyan** (2015), Topology optimization for elastic base under rectangular plate subjected to moving load. Archives of Control Sciences, vol. 25 (LXI), issue 3, pp. 289–305.

41. **As. Zh. Khurshudyan** (2015), The Bubnov-Galerkin method in control problems for bilinear systems. Automation and Remote Control, vol. 76, issue 8, pp. 1361–1368.

42. S. V. Sarkisyan, S. H. Jilavyan, **As. Zh. Khurshudyan** (2015), Structural optimization of an inhomogeneous infinite layer in problems on propagation of periodic waves. Mechanics of Composite Materials, vol. 51, issue 3, pp. 277–284.

43. **As. Zh. Khurshudyan** (2015), Generalized control with compact support for systems with distributed parameters. Archives of Control Sciences, vol. 25 (LXI), issue 1. pp. 5–21.

44. Am. Zh. Khurshudyan, **As. Zh. Khurshudyan** (2014), Оптимальное распределение вязкоупругих гасителей колебаний под упругой конечной балкой при подвижной нагрузке (in Russian). Optimal distribution of viscoelastic dampers under elastic finite beam subjected to moving loads. Mechanics. PNAS Armenia, vol. 67, issue 3, pp. 56–67.

45. **As. Zh. Khurshudyan** (2014), On optimal boundary and distributed control of partial integro–differential equations. Archives of Control Sciences, vol. 24 (LX), issue 1, pp. 5–25.

46. S. H. Jilavyan, A. S. Sarkisyan, **As. Zh. Khurshudyan** (2013), On adhesive binding optimization of elastic homogeneous rod to a fixed rigid base as a control problem by coefficients. Archives of Control Sciences, vol. 23(LIX), issue 4, pp. 381–393.

47. **As. Zh. Khurshudyan** (2013), On optimal boundary control of non–homogeneous string vibrations under impulsive concentrated perturbations with delay in controls. Math. Bulletin. T. Schevchenko Sci. Soc., vol. 10, pp. 203–209.

B) **In Conference Proceedings**

1. APP Kumar, S. Sasubilli, **As. Zh. Khurshudyan** (2018), Approximate analytical solution to non-linear Young-Laplace equation with an infinite boundary condition. IEEE Proceedings of "International Conference on Computing, Mathematics and Engineering Technologies (iCoMET)", 3-4 March 2018, DOI: 10.1109/ICOMET.2018.8346349.

2. U. Sh. Sekhar, G. Sasubilli, **As. Zh. Khurshudyan** (2018), Computer model of point sources in control problems for heating bodies. IEEE Proceedings of "International Conference on Computing, Mathematics and Engineering Technologies (iCoMET)", 3-4 March 2018, DOI: 10.1109/ICOMET.2018.8346361.

3. **As. Zh. Khurshudyan**, S. K. Ohanyan (2016), Finite element analysis of epithelial tissue bending due to apical constrictions. Proceedings of International Conference "Mechanics-2016", Tsaghkadzor, Armenia, pp. 155–159.

4. **As. Zh. Khurshudyan** (2015), On approximate solution of mobile (scanning) control problems. Proceedings of SIAM Conference on "Control Theory and its Applications", Paris, France, pp. 236-245.

5. **As. Zh. Khurshudyan** (2014), On Some problems of designs structural and topological optimization. Proceedings of International Summer-School conference "Advanced Problems in Mechanics-2014", St. Petersburg, Russia, pp. 320-330.

6. **As. Zh. Khurshudyan**, Sh. Kh. Arakelyan (2013), Delaying control of non–homogeneous string forced vibrations under mixed boundary conditions. IEEE Procedings on Control and Communications, 5 p.

7. S. H. Jilavyan, **As. Zh. Khurshudyan** (2012), Optimal control of thermoelastic stresses in infinite elastic layer. Proceedings of International Conference, Dedicated to Centenary of N. Kh. Arutyunian, Tsaghkadzor, Armenia.

8. S. H. Jilavyan, **As. Zh. Khurshudyan** (2012), Optimal control of anisotropic layer-plate vibrations in view of transverse shear. Proceedings of International Conference on "Information Control, Transmission and Transfer", Saratov, Russia, pp. 219–228.

9. **As. Zh. Khurshudyan** (2012), On optimal boundary null-controllability for non-homogeneous string vibrations under impulsive boundary perturbations. Proceedings of IV Russian-Armenian Colloquium on "Mathematical Physics, Complex Analysis and Related Topics", Krasnoyarsk, Russia, pp. 81–84.

Preprints:

1. M. Frasca, **As. Zh. Khurshudyan** (2018), Green's functions for higher order nonlinear equations. arXiv:1806.11313 [math-ph]

2. M. Frasca, **As. Zh. Khurshudyan** (2018), General representation of nonlinear Green's function for second order differential equations nonlinear in the first derivative. arXiv: 1806.00274v2 [math-ph]

3. M. Frasca, **As. Zh. Khurshudyan** (2018), A general representation for the Green's function of second order nonlinear differential equations. arXiv:1805.10495v2 [math-ph]

4. J. Bartlett, **As. Zh. Khurshudyan** (2018), Extending the algebraic manipulability of differentials. arXiv:1801.09553 [math.GM]

The following above mentioned publications have evolved from my doctoral dissertation: A38, A40–A47, B5–B9.

as of July 2021