

Dr. M Jathavedan

Qualification : MSc., Ph.D.

Date of Joining : 01/05/2010 as Emeritus Professor

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Area of Specialization : Fluid Mechanics, Differential Equations, Language Computing

Major Research Projects : 1) Mathematical Modeling and Analysis of Problems of Coastal Erosion, Department of Science and Technology, Government of India, 1984-44.
2) Studies of Turbulence in Fluids with Special reference to Non Linear Waves on Coastal Regions, Science, Technology and Environment (B) Department, Government of Kerala, 1989-92

Conferences Organised : National Conference on Indian Society For Theoretical and Applied Mechanics

Publications in Journals

A. (With Dr.P.D.S.Verma, Ph.D. guide)

1. Paramagnetic fluid flow through an annulus with porous walls .Proceedings of Indian National Science Academy, Part A, 44(4),1978,239-51.
2. Helical flow offerrofluid with heat conduction.J.Math.Phy.Sci., 4, 1978, 377-89.
- 3.Steady rotation of a sphere in a paramagnetic fluid. Wear, 52, 1979,201 -218.

B. (With students).

4. Auto-Backlund transformation, Lax-pairs and Painleve property of a variable coefficient Kortevog - de Vries equation- J. Math. Phys., 1986, 22(11), 2640-43.
5. A variable coefficient Kortevog - de Vries equation. Similarity analysis and exact solution. J. Math. Phys., 1986, 27(11), 2644-46.
6. Wave interaction on water of variable depth. J. Math. Phy. Sci., 1990, 24(2), 107-114.
7. Integrability study and numerical analysis of Kortevog-de Vries equation with variable coefficients. Int. J. Nonlinear Mech. 1989, 24(5), 431-39.
8. Long-wave Propagation in water with bottom discontinuity. Int. J. Nonlinear Mech. 1992, 27, 197-201.
9. A note on generalized circulation theorem. J. Math. Phys. Sci., 1988, 22(5), 649-53.
10. Variational principles and conservation laws for non-barotropic flows. J. Math. Phys., 1989, 30(4), 942-52.
11. Generalized hydromechanical variational principle and Noether's second theorem. Int. J. Eng. Sci., 1991, 29(6), 743-50.
12. Wave propagation on water where depth changes' forming a shelf. I. Wave' interaction. Far East J. Math. Sci., 1994, 2(1), 27-34.

13. Generalized hydromechanical variational principle and conservation of potential vorticity. *Indian J. pure appl. Math.*, 26(12), 1205-12310, 1995.
14. Some conservation laws for non-barotropic fluids. *J. Math. Phys. Sci.*, 30, 1996.
15. Inverse scattering transform (IST) analysis of KdV-Burger's equation. *Int. J. Non Linear Mechanics*, 30, 5, 617-627, 1995.
16. Vorticity invariants in hydrodynamics. *Z. angew. Math. Phys.*, 55, 258-67, 2004.
17. Comparative study of text summarization in Indian Languages. *Int. J. Comp. Appl.* 75(6), 17-21, 2013.
18. Application of modified spectral bisection for segmenting Malayalam documents. *Proc. Third Int. Conference on Advances in Computing and Communications. IEEE*, 2013
19. Maxwell stress tensor in hydrodynamics. *IOSR Journal. JM.* (To appear).
20. Betweenness Centrality in Some Classes of Graphs. *Int. J. of Combinatorics*. 2014.
21. Implementation of Text Clustering Using Genetic Algorithm. *IJCSIT.*, June, 2014.

Conference Presentations

1. Vortex method for free surface flow. 30th Congress of Indian Society of Theoretical and Applied Mechanics. I.I.T., New delhi. 1985.
2. Gauge theoretical model for two dimensional vortex flow of an incompressible inviscid fluid. 30th Congress of the Indian Society of Theoretical and Applied Mechanics. IIT, Delhi. 1985
3. Fluid mechanics- a variational approach. 31st Congress of The Indian Society of Theoretical and Applied Mechanics. Gwalior. 1986.
4. Two dimensional vortex flow of an incompressible inviscid fluid. 51st Conference of Indian Mathematical Society. CUSA T. 1985.
5. Vortex method for surface and interfacial waves. 51st Conference of Indian Mathematical Society, CUSAT, 1985.
6. Interfacial wave between inviscid and viscous fluids. 31st Congress of Indian Society of Theoretical and Applied Mechanics. Gwalior, 1986.
7. Helicity conservation and stability of barotropic flows. 43rd Congress of Indian Society of Theoretical and Applied Mechanics. Coimbatore, 1998.
8. Topology conservation of vorticity in inviscid barotropic flows. 45th Congress of Indian Society of Theoretical and Applied Mechanics, 2000.
9. Generalization of conservation laws of barotropic flows. 41st Congress of Indian Society of Theoretical and Applied Mechanics, CUSA T 1996.
10. Hamiltonian for fluid dynamics. 41 st Congress of Indian Society of Theoretical and Applied Mechanics, CUSAT, 1996.
11. Numerical study of a perturbed KdV equation. 41 st Congress of Indian Society of Theoretical and Applied Mechanics, CUSAT, 1996.
12. Analytical solution of a Burger's equation, 41st Congress of Theoretical and Applied Mechanics, CUSA T, 1996.
13. Hydrodynamics and geometry of four dimensional space-time continuum. 42nd Congress of Theoretical and Applied Mechanics, Surat, 1997.
14. Vortex stress tensor. National Conference on Mathematical Modeling. Kerala Mathematics Association, Kottayam, 2002..
15. Topological invariants in hydrodynamics. 97th Indian Science Congress. Trivandrum. 2010.
16. Evolution of vortex knots. 97th Indian Science Congress. Trivandrum. 2010.
17. Indian semantic theories. National Conference on Indian Language Computing. CUSAT. 2011
19. Language, logic and mathematics. National Conference on Indian Language Computing. CUSAT. 2012.
20. A proposed method for clustering Malayalam document using genetic algorithm. National Conference on Indian Language Computing. CUSAT, 2014.

Articles in Malayalam

1. Onnumuthal pujiyam vare (From one to zero). Studen, 2007.
2. Ganithasastrathile randu viplavakarinal (Two women revolutionaries in mathematics).Student, 2007.
3. Beejaganitham -aksharangaal ~ganithathilekku (Algebra - alphabets enter mathematics). Souvenir, 47th state anniversary of Kerala Sasthra Sahitya Parishad. 2010.
4. Enthanu ganithasasthram (What is mathematics?) Granthalokam. February, 2011.
5. Karal Marxinte Ganithasaasthra kurippukal. Sasthragathy. April 2014.
6. Oru Human Projectinte Kadha. Sasthra gathy, December, 2014.

Books in Malayalam

1. Ganithasasthram, sasthrangalude rani (Mathematics, the queen of sciences). Chintha Publishers. 2009.
2. Samakaaleena ganithasasthram (Contemporary mathematics). Chintha Publishers. 2008.