

FACULTY PROFILE

Name of the faculty	Dr. R HARISH
Designation	Professor
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Educational Qualification

Degree	Specialization	University	Year of Passing
Ph.D	PHYSICS (Nuclear Physics)	University of Madras	2003
M. Tech	Solid State Tech	Indian Institute of Technology Madras	1987
M.Sc	PHYSICS (Nuclear Physics)	Karnatak university	1984

Work Experience

Teaching	Research	Industry
6	35	29

Publications

National/International Journals	National/International Conferences	Books Authored/Edited
17	25	-

Area of Interest

Nuclear reactor physics
Nonlinear dynamics and chaos

Membership in Professional Bodies/University

Life member of Indian Society for Radiation Physics (ISRP)

Publications National/International Journals

1. Sujata Mohanty and R. Harish, Variation of the acceleration parameter in a few low mass galaxies, Kinematics and Physics of Celestial Bodies (submitted)
2. Sujata Mohanty and R. Harish, Study of Cosmological Bias of Galaxies in Quasilinear Regime, Journal of Physics and Astronomy, 8 (3), 1 (2020)
3. Sujata Mohanty, R. Harish and Rajesh Gopal, Magnetic Field-Biased Tracer Element in Deciding Cosmological Bias, J. Phys. Astronomy 6 (1), 137, 2018
4. S. Chattarjee, R. Harish and G. M. Schuetz, Strong Reactivity Enhancement Through Molecular Traffic Control in Certain Realistic Zeolite Channel Topologies, Chemie Ingenieur Technik, 85, (2013), 1671
5. Sakuntala Chattarjee, R. Harish and G. M. Schuetz, Strong Molecular Traffic Control Effect in TNU-9 Zeolite Channel Topology, J. Phys. Chem. B, 115 (2011), 15289
6. R. Harish, E. Subramanyam, R. Madhavan, and S. Vidyanand, Theoretical model for the evaluation for Variable Frequency Drive for a once through condenser cooling water system, Applied Thermal Engineering, 30 (2010), 2051
7. R. S. Geetha, R. S. Keshavamurthy, R. Harish, Temperature and energy derivatives of Doppler broadening functions by Steffensen's inequality technique, Annals of Nuclear Energy, 37 (2010) 985
8. R. Harish, G. S. Srinivasan, A. Riyas, P. Mohanakrishnan, A comparative study of unprotected loss of flow accidents in 500MWe FBR metal cores with PFBR oxide core, Annals of Nuclear Energy, 36 (2009) 1003
9. R. Harish, D. Kurewski and G. M. Schuetz, Molecular Traffic Control in a Cracking Reaction, J. Catalysis, 253 (2008) 191
10. K. P. N. Murthy, R. Harish and S. V. M. Satyanarayana, Statistical Methods in Nonlinear Dynamical Systems, Pramana 64, 353 (2005)
11. R. Harish, S. Rajasekar and K. P. N. Murthy, Diffusion in Periodically Driven Damped and Undamped Pendulum, Phys. Rev. E 65, 046214 (2002)
12. Om Pal Singh and R. Harish, Energetics of Core Disruptive Accident for Different Fuels for a Medium Sized Fast Reactor, Annals of Nuclear Energy, 29 (2002) 673-683
13. R. Harish and K. P. N. Murthy, Intermittency in Random Maps, Physica A, 287, 161-166 (2000)
14. Om Pal Singh, R. Harish, S. Ponpandi, P. Bhaskar Rao and R. Shankar Singh, Analysis of Passive Shutdown Capability for a Loss of Flow Accident in a Medium Sized LMFBR, Annals of Nuclear Energy, 21, 165-170 (1994)
15. Om Pal Singh, S. Ponpandi, R. Harish and R. Shankar Singh, Response to Small Perturbation in an Oxide and Metal Fueled Medium Sized Reactor, Annals of Nuclear Energy, 20, 315-319 (1993)

16. R. S. Keshavamurthy and R. Harish, Use of Pade Approximation in the Analytical Evaluation of $J(\theta, \beta)$ Function and Its Temperature Derivative, Nucl. Sci. Engg. 115, 81-88 (1993)
17. Maschek, W. Stanculescu, A. Arien, B. Bai, Y. Chabert, Ch. Chebeskov, A.A. Chen, X. da Cruz, D.F. Dekoussar, V. Devan, K. Dulla, S. Gopalakrishnan, V. Feynberg, O. Harish, R. Ignatiev, V. Kophazi, J. Li, J. Malambu, E. Mohanakrishnan, P. Morita, K. Pandikumar, G. Peneliau, Y. Ravetto, P. Rineiski, A. Schikorr, M. Srivenkatesan, R. Subbotin, V. Surenkov, A. Szieberth, M. Taczanowski, S. Tucek, K. Vertes, P. Vorotyntsev, M. Uhlir, J. Wider, H. Wu, Y. Zakirov, R. Zheng, S. Report on intermediate results of the IAEA CRP on Studies of advanced reactor technology options for effective incineration of radioactive waste, Energy Conversion and Management, 49, (2008) 1810

National /International Conferences Papers Presented

1. R. Harish and Puneetha, *A Semi-Analytical Solution of Nonlinear Pendulum-Like Equations Using Adomian Polynomials, International Conference on Advances in Science, Engineering & Mathematics (ICASEM 2020)*”, held on 7th to 9th, August 2020
2. R. Harish, D. Karewski and G. M. Schuetz, Application of Molecular Traffic Control for a Cracking Reaction, paper presented at "Fachtung Adsorption, Extraction and Molecular Modeling", AEM 2007, 21-23 March 2007, Asselheim, Germany
3. R. Harish and Om Pal Singh, *Assessment of Main Vessel Temperature Following a Core Disruptive Accident in a Fast Reactor*, 17th National Heat and Mass Transfer Conference, Kalpakkam, India, 5-7 Jan 2004
4. R Harish and K P N Murthy, Anomalous Diffusion and Current Generation in a Driven Hamiltonian System, National Conference on Nonlinear Systems & Dynamics, IIT Kharagpur, Dec 28-31 2003
5. R. S. Keshavamurthy and R. Harish, Exact Analytical Treatment of Doppler Effect in Low Energy Neutron Resonance Reactions, Symp. Nucl. Phys., Bombay, Dec. 1988
6. R. Harish and Om Pal Singh, A Study of Unprotected Loss of Flow Accident in BN800 Like Reactor Beyond Onset of Boiling, 8th Consultancy Meeting on IAEA/EC Comparative Calculations for Severe Accident (ULOF) in BN-800 Type Reactor, IPPE Obninsk, Russian Federation, 2-6 June, 1998
7. R. S. Keshavamurthy and R. Harish, Accurate Evaluation of Resonance Integrals, Proc. 12th Natl. Symp. Rad. Phys. - NSRP-12, Jodhpur, India, 28-30 Jan. 1998
8. R. Harish and Om Pal Singh, Analysis of Severe Accidents in Near-Zero Void Fast Reactor, Proc. 12th Natl. Symp. Rad. Phys.-NSRP-12, Jodhpur, India, 28-30 Jan., 1998
9. R. Harish and Om Pal Singh, Analysis of Unprotected Transient Over Power and Loss of Flow Accidents in BN800 Reactor, 7th IAEA Consultancy Meeting, Vienna 11-12 Dec. 1997
10. R. Harish and Om Pal Singh, Analysis of Unprotected Transient Over Power and Loss of Flow Accidents in BN800 Reactor, 6th IAEA Consultancy Meeting Brussels, Belgium 30 June – 3 July 1997
11. R. Harish and Om Pal Singh, A Study of Unprotected Loss of Flow Accident in BN800 Like Reactor Beyond Onset of Boiling, 8th Consultancy Meeting on IAEA/EC Comparative Calculations for Severe Accident (ULOF) in BN-800 Type Reactor, IPPE Obninsk, Russian Federation, 2-6 June, 1998
12. R. S. Keshavamurthy and R. Harish, Accurate Evaluation of Resonance Integrals, Proc. 12th Natl. Symp. Rad. Phys. - NSRP-12, Jodhpur, India, 28-30 Jan. 1998
13. R. Harish and Om Pal Singh, Analysis of Severe Accidents in Near-Zero Void Fast Reactor, Proc. 12th Natl. Symp. Rad. Phys.-NSRP-12, Jodhpur, India, 28-30 Jan., 1998
14. R. Harish and Om Pal Singh, Analysis of Unprotected Transient Over Power and Loss of Flow Accidents in BN800 Reactor, 6th IAEA Consultancy Meeting Brussels, Belgium 30 June – 3 July 1997

15. Om Pal Singh and R. Harish (Eds.), Results of Transient Calculations for Unprotected Loss of Flow Accident in BN-800 Type Reactor with Near-Zero Void Reactivity Coefficient Upto Onset of Boiling, IAEA Vienna and EC Brussels, Dec. 1997
16. Om Pal Singh and R. Harish, Results of Transient Calculations for Unprotected Loss of Flow Accident Beyond Onset of Boiling in BN-800 Reactor, 5th Consultancy Meeting on IAEA/EC Comparative Calculations for Severe Accident (ULOF) in BN-800 Reactor held in Vienna, Austria, 4-6, Dec. 1996
17. Om Pal Singh and R. Harish, Results of Fuel Pin Characterization and Transient Calculations for an Unprotected Loss of Flow Accident in a BN-800 Reactor, 4th IAEA Consultancy Meeting, Brussels, Belgium, June 1996
18. Om Pal Singh and R. Harish, Steady State Calculations and Fuel Pin Characterizations for End of Equilibrium Core in BN-800 Reactor with Near-Zero Void Coefficient of Reactivity, 3rd IAEA/EC Consultancy Meeting, Vienna, Austria, 11-13 Dec. 1995
19. Om Pal Singh and R. Harish, IAEA/EC Comparative Calculation for Severe Accident in BN-800 Reactor, IAEA/EC Consultancy meeting, Brussels, Belgium 26-28 July, 1995
20. R. Harish and R. S. Keshavamurthy, Higher Order Multipole Approximation for the Complex Probability Function and Its Application in the Analytical Evaluation of Resonance Integrals, Natl. Symp. Radiation Phys. NSRP-10, Kalpakkam - Madras, 17-20 Aug 1993
21. R. Harish and Om Pal Singh, Doppler Reactivity Coefficient and Energy Release in Hypothetical Core Disruptive Accident for Different Fuels in PFBR, Natl. Symp. Safety of Nucl. Power Plants and Other Facilities, Bombay, 11-13 March 1992
22. Om Pal Singh, R. Harish, R. Shankar Singh and S. R. Paranjpe, Energetics of a Hypothetical Core Disruptive Accident for Different Fuels for a Medium Sized Fast Reactor, Int. Conf. Fast Reactor and Related Fuel Cycles, Kyoto, Japan, 28 Oct. - 1 Nov. 1991
23. S. R. Paranjape, Om Pal Singh and R. Harish, Sodium Void Coefficient and Fast Reactor Safety, Int. Conf. Fast Reactor and Related Fuel Cycles, Kyoto, Japan 28 Oct. - 1 Nov. 1991
24. P. Chellapandi, R. Harish, N. Kasinathan, Om Pal Singh, S. R. Paranjpe and G. Vaidyanathan, Comparative Evaluation of Different Fuel Options for a Fast Breeder Reactor of 500 MWe, Int. Fast Reactor Safety Meeting, Snowbird, Utah, 12-16 Aug. 1990

Faculty Development Programme Participated

Participated in one-day FDP on 'Effective Instructional Planning', September 17, 2021, CMR University, Bengaluru

Workshop Attended

Course on Computational Physics at the International Centre for Theoretical Physics, Trieste, Italy, May-June 1995

Awards/Recognition/Achievement/Others

Best Professor in Technology Studies,
27th Edition of Business School Affaire & Dewang Mehta National Education Awards, 22nd November, 2019,
Taj Lands End, Mumbai