



Contents

- i. Title Page
- ii. About ISTAM
- iii. Presidents
- iv. Secretaries
- v. Corporate Members
- vi. Lifemembers of ISTAM
- vii. Previous ISTAM Congress
- viii. Executive Council 2018
- ix. President Message
- x. Preface
- xi. Presidential Address Abstract
- xii. Memorial and Invited Lectures

ISTAM Indexing	Title
Fluid Mechanics: Abstracts	
PID-001	Flexural Gravity Wave Blocking In Submerged And Floating Plate System Santu Das And Trilochan Sahoo
PID-012	Effect of Inclination on Rayleigh-Bénard Convection in Nanoliquids Kanchana C and Yi Zhao
PID-014	Hydromagnetic Free Convection Oscillatory Flow of Visco-Elastic Dusty Fluid through A Channel Hridi Ranjan Deb
PID-015	Comparative Investigation of Laminar Separation Bubble on a wing at Low Reynolds number Uthra M P and Mr. A. Daniel Antony
PID-016	Linear and Nonlinear Stability Analyses of Brinkman-Benard-Convection in a Water-Copper Nanoliquid Saturating a High- Porosity Medium P. G. Siddheshwar and B. N. Veena
PID-027	Propagation of Oblique Waves over an Elastic Bottom Undulation in a Two-Layer Fluid Ayan Chanda, Swaroop Nandan Bora
PID-028	Nevanlinna Theory for Finding Meromorphic Solutions of Cubic-Quintic Ginzburg-Landau Equation Arising in Nonlinear Dynamics A. Tanuja
PID-035	Dissipation and Dispersion Relation Preserving Optimized High Order Implicit Runge-Kutta Schemes Subhajit Giri, Shuvam Sen
PID-054	Blast waves produced by nuclear explosion in a dusty, van der Waals gas. Meera Chadha and J. Jena
PID-064	Flow through Porous Media Wave Trapping by Trapezoidal Porous Breakwater Santanu Koley



PID-067	Heat and Mass Transfer due to Double-Diffusion Convection in a Square Porous Enclosure Occupied by Casson Fluid Madhu Aneja, Sapna Sharma
PID-073	Numerical modeling of wave scattering by multiple bottom-standing porous structures Mohamin B M Khan, Harekrushna Behera
PID-078	Response of Floating Circular Porous Membrane in Two-Layer Fluid Siluvai Antony Selvan , Sumanta Shagolshem , Harekrushna Behera
PID-089	Long wave instability of a thin film over a heated slippery inclined plane A. Muthulakshmi, N. Deepika1 and S. Ghosh
PID-099	Linear and Non-Linear Analyses of Electro- Solute convection in a Fluid with Angular Momentum under Solute Concentration Modulation. Ansa Mathew and S. Pranesh
PID-102	Interaction of a Singular Surface with a Strong Shock in Interstellar Gas Clouds J. Jena and Sheena Mittal
PID-103	Wave interaction with rigid cylinder in presence of surface piercing concentric cylindrical porous barriers R. Gayathri (a), Siluvai Antony Selvan (a), Harekrushna Behera
PID-106	Study of Converging Shock in Dusty Gas J.Jena, Nishi Deepa Palo
PID-108	Effects of Suction-Injection Combination and internal heat generation on heat transfer in a Micropolar fluid layer using Ginzburg-Landau equation derived from Lorenz model. Vasudha Yekasi , S Pranesh and Shahnaz Bathul
PID-111	Effect of Inclined Magnetic Field and Rotation on the Kelvin-Helmholtz Instability at the Interface Fluid Saturated Porous Layer Chandra Shekara G.
PID-115	Computational Study of Unsteady Diffracted Shock Wave over Convex Sharp Edges A Sunil Varma, Pabitra Halder
PID-116	Numerical Study of Mhd Natural Convection in an Inclined C-Shaped Enclosure Filled With Ferrofluid Amit Kumar Ghosh1, Pabitra Halder
PID-118	Study of Linear and Non-Linear Analyses of Onset of Double Diffusive Chandrashekar Convection with Concentration Based Internal Heat Source in Micropolar Fluid with Saturated Porous Media under Gravity modulation. Maria Anncy S., T. V. Joseph and S. Pranesh
PID-130	Cfd Modeling of Double-Diffusive Convection in a Non Newtonian Liquid Arun Kumar N1 and S. Pranesh
PID-134	Creeping motion of a composite porous particle inside a spherical elastic cavity Chayan Rellana, Jai Prakasha
PID-138	Pre-clinical Analysis of Implanted Ankle Joint using Finite Element Method Subrata Mondal, 1Rajesh Ghosh
PID-139	Transient viscous flow past a spherical droplet partially coated with a surfactant layer V. Sharanya and G. P. Raja Sekhar



PID-141	Effects of Dufour and Soret parameters in a double diffusive magneto convection in couple stress fluid under time dependent inertial acceleration Ramya Rajagopal, S. Pranesh
PID-142	Numerical Study on Indoor Temperature in Multi-Storey Buildings Anjanna Matta, M. Srinivasa Reddy
PID-143	Diffraction of Water Waves by Floating Structure over Series of Two Shelves in the Presence of Wall Amandeep Kaur and S. C. Martha
PID-147	Numerical Solution of Singular Perturbation Problem with Mixed Boundary Conditions via Deviating Argument and Numerical Integration Venkanna Bachu
PID-150	Effect of Sinusoidal and Non-Sinusoidal Temperature Modulation in a Triple Diffusive Convection S Pranesh, and Sameena Tarannum
PID-153	MHD and Viscous Dissipation Effects on Marangoni Mixed Convection Nanofluid Flow over Inclined Plate Peri K. Kameswaran, D.R.V.S.R.K. Sastry
PID-158	Study of Rayleigh-Bénard Convection of a Newtonian Nanoliquid in a High Porosity Medium Using Local Thermal Non-Equilibrium Model T N Sakshath and P G Siddheshwar
PID-172	Revised Regular Perturbation Method to Solve Nonlinear Vibration Problems Satyanarayana Badeti
PID-173	Exact Solutions of an Integrable Soliton Equation Subhankar Sil, T. Raja Sekhar
PID-174	Stability of the Riemann Solution for a Strictly Hyperbolic System of Conservation Laws with Flux Approximation Anupam Sen, and T. Raja Sekhar
PID-175	Unsteady Analysis of Rotating Horizontal Boundary Layer Flows K. Jagadeshkumar
Fluid Mechanics: Full Length Papers	
PID-003	Modeling of Radiating Shock Layers for Lunar Return Atmospheric Entry at Earth N. Asokarajan and G. Kumaravel
PID-004	Sun gravity-assist to trans-lunar injection orbits Harishkumar Sellamuthu, Subramanian Arumugam, Ram Krishan Sharma
PID-009	On the recurrence signatures of flapping wings exposed to gusty simple shear flow Manabendra M. De, J S Mathur, S Vengadesan
PID-010	Unsteady heat transfer from a non-isothermal axisymmetric body immersed in porous media saturated by nanofluid. Shobha Bagai, Mridu Sharma



PID-013	Convective heat transfer characteristics of hybrid nanofluid in industry length scale shell and tube heat exchanger S. Anitha
PID-019	Analytical study of virial equation of state of Lennard -Jones and water clusters in a low density limit Tarun Kumar Dey
PID-020	Study of Hot Phonon on Hot Electron System Anjana Kumari, Bidyanand Mahto, Rajesh Kumar and TarunKumar Dey
PID-021	Influence of magnetic field in a Transport properties of a semiconductor Gun Sagar Yadav, Randhir Kumar and Tarun Kumar Dey
PID-026	Similiarity Solutions for Unsteady Laminar Mhd Boundary Layer Flow and Heat Transfer due to a Stretching Sheet Ajaykumar M, Ajay C K, A. H. Srinivasa, A.T.Eswara
PID-031	Geometry of Variably Inclined Inviscid Mhd Flows Dr. Anirban Roy and Dr. Hari Baskar R
PID-032	Kinematic Analysis and Modification of Theo Jansen Mechanisam Based Robot Made of Pla Keval Bhavsar , Dharmik Gohel, Pranav Darji, Jitendra Modi, Umang Parmar
PID-033	The Effect of Viscous Dissipation on Mhd Boundary Layer Flow due to an Exponentially Stretching Sheet Naveen V, Venkataramana B S, Jalaja P, Dr.K.R.Jayakumar, Dr. A T Eswara
PID-036	A Parametric Study of Vibration Characteristics of Non-uniform Curved Beams K. S. Shivakumar Aradhya, D. Mohanraj
PID-040	A Study on Pulsatile Flow of Blood through Stenosed Blood Vessels R. Ponalagusamy and Ramakrishna Manchi
PID-047	Rayleigh-Bénard Convection in Newtonian Liquids Bounded by Rigid Isothermal Boundaries Shivakumar B N
PID-053	Reduction of Five-mode Lorenz model to a Coupled Cubic-Quintic Ginzburg-Landau Equation using Center Manifold Theory Sushma T. S.
PID-056	Unsteady MHD free convective second grade nanofluid flow along a permeable stretching sheet under the influence of solet and dufour Preeti, Odelu Ojjela and Samir K. Das
PID-063	Natural Convection Of Water-Copper Nanoliquids Confined In Low-Porosity Cylindrical Annuli K. M. Lakshmi
PID-074	Mathematical Modeling Convergence of eigenfunction expansions for membrane coupled gravity waves Santanu Koley, KottalaPanduranga, Dipak K satpathi
PID-075	Numerical Analysis of Variations on design modifications of Train and Tunnel Geometries to reduce Aerodynamic drag on Train Vaibhav Rastogi and Nityananda Nandi



PID-076	Linear and Non-linear Analysis of Concentration Modulation in a Micropolar Fluid Meghana J, Ansa Mathew, S. Pranesh
PID-077	Analysis of exact solutions of electromagnet to hydrodynamic flow and Heat Transfer of non-Newtonian casson fluid in micro channel with viscous dissipation and joule heating Motahar Reza, Amalendu Rana
PID-080	Linear and Non-Linear Analysis of Solute-Convection Modulation in a Couple Stress Fluid under Temperature Modulation Thriveni K and S. Pranesh
PID-087	Study of Radio Frequency Transistor Amplifier using Simulation Method Brahma Nand Jha, Archana Kumari and Tarun Kumar Dey
PID-088	Charge-Carrier Dynamics of Liquid Semiconductor Interfaces Bhishma Karki, Gyanesh, Soumya Thakur and Tarun Kumar Dey
PID-092	Theoretical Analysis of Confinement on Quantum Dots Using the Brus Equation Mukesh Kumar, Lalit Kumar, Archana Kumari and Tarun Kumar Dey
PID-094	Study of Heat Generation on Hot Electron Transport in Semiconductor using simulation method Manisha Samarth, Mukesh Kumar and Tarun Kumar Dey
PID-095	Theoretical analysis of Confinement on Quantum Dots Using the Brus Equation Mukesh Kumar, Lalit Kumar, Archana Kumari and Tarun Kumar Dey
PID-113	The effect of first order chemical reaction on mixed convective flow in the presence of source/sink in a vertical porous channel. Patil Mallikarjun1, R. Vasudeva Murthy
PID-136	Experimental Investigation of Viscous Fingers using Hele Shaw Apparatus Rahul Dev Pandey, Nityanand nandi
PID-137	Convective Instability in a Vertically Oscillating Ferrofluid with Variable Viscosity Neha Aanam Ahmed
PID-145	Dynamic Problem of Fractional Thermoelasticity in Bounded Cylindrical Domain with Relaxation Time Gaurav Mittal and V. S. Kulkarni
PID-165	Force measurement of fluid falling through control valve assembly associated with Shirodhara M. Swathika
PID-166	The Influence of Heat Generation (Absorption) On Boundary Layer Flow Due To an Exponentially Stretching Sheet with an Applied Magnetic Field Venkataramana B S, Jalaja P, Naveen V, Dr.K.R.Jayakumar, Dr. A T Eswara
PID-168	Numerical Solution of the Mhd Boundary Layer Flow Over An Exponentially Stretching Sheet With Viscous Dissipation Dr.K.R.Jayakumar, Dr. A T Eswara
Solid Mechanics : Abstracts	
PID-005	Hygrothermoelastic effect on a finite solid cylinder based on fractional diffusion wave theory Jyoti Verma1, Dr K. C. Deshmukh2



PID-006	Spectral formulation of the antiplane strain boundary integral equation method Ranjith Kunnath
PID-018	Water Wave Radiation by a Submerged Sphere in a Channel with Flexible Base Lopamudra Das, Smrutiranjana Mohapatra
PID-043	Design of Tri-leaflet Mechanical Heart Valve A. Panigrahi, A. Roy Chowdhury, D.Pal, P.Dutta
PID-046	Free Vibration Analysis of Isotropic Cut-Out Plate Carrying Concentrated and Distributed Mass. Subham Pal, Aditi Majumdar, Salil Haldar
PID-048	Finite Element Modelling of Cytoskeletal Components under Varying Loads and Elastic Properties Mohammed Parvez Khan, Krishnendu Bhowmik, Ananya Barui, Amit Roy Chowdhury
PID-060	The behaviour of seismic surface waves propagation under the influence of initial stress, anisotropy and heterogeneity Pulkit Kumar
PID-061	Shear waves Propagation in Heterogeneous fibre-reinforced media on a cylindrical model Moumita Mahanty
PID-070	Finite element analysis of effectiveness of fracture fixation plate made of shape memory alloy Ankush Pratap Singh, Santanu Majumder
PID-112	Design of a Three-Fingered Gripper for Physical Therapy Gaurav Jaiswal, Jyotindra Narayan, S. K. Dwivedy
PID-119	Analysis of Thermoelastic Behavior of a Thermally Sensitive Functionally Graded Rectangular Plate V. R. Manthana
PID-120	Hygrothermoelastic Problem of a Finite Solid Circular Cylinder N. K. Lamba and K. C. Deshmukh
PID-121	Fractional Order Theory of Thermal Deflection to a 2d Problem for a Thin Hollow Circular Disk with Instantaneous Heat Source S. D. Warbhe, K. C. Deshmukh
PID-122	The Effect of Internal Heat Generation and Temperature Asymmetry on Thermal Stresses in a Composite Hollow Sphere S. P. Pawar
PID-123	Analytical Solution for Two Dimensional Axisymmetric Thermoelastic Behavior in the Multilayer Composite Hollow Sphere N. J. Wange, S.P.Pawar, M.N. Gaikwad
PID-124	String Fluid Magnetized Cosmological Model in Bimetric Theory of Gravitation N. P. Gaikwad
PID-125	Spherically Symmetric Charged Perfect Fluid Model with Electromagnetic Field in Time-Independent Gravitational Field P. R. Dhongle
PID-126	Magnetized Cosmological Model with one Cosmological Constant in Bimetric Theory of Gravitation S. S. Charjan



PID-127	A Bianchi Type-Ii Space-Time of Petrov Type D with Anti-Stiff Fluid in Second Self-Creation Theory of Gravity M. S. Borkar and N. K. Ashtankar
PID-129	Lrs Bianchi Type Ii Magnetized Cosmological Model with Perfect Fluid and With Quintessence, Chaplygin Gas Dark Energy in Bimetric Relativity M.S. Borkar, P.V. Gayakwad
PID-154	Study of Magneto-Thermo-Elastic Stresses Due to Eddy Current Loss in a Hollow Circular Cylinder G. D. Kedar and L. C. Bawanka
PID-163	Security to IoT based devices using Application of Mathematics and Cryptography C. D. Bawankar
Solid Mechanics : Full Length Papers	
PID-007	A Study on Free Vibration Behaviour of Micro Beam under Large Static Deflection using Modified Couple Stress Theory Sujash Bhattacharya, Debabrata Das
PID-017	Fatigue Life Estimation of a Box Girder Bridge Using Coupled and Uncoupled Bridge-Vehicle Dynamics Anjaly J Pillai, Suvendu Parida, Sudip Talukdar
PID-029	Size Dependent Responses of Timoshenko Beam Incorporating the Strain Gradient Theories of Elasticity Sai Sidhardh
PID-037	Dynamic Response of Axisymmetric Functionally Graded Viscothermoelastic Hollow Cylinder due to Heat Sources by Using Series Solution Himani Mittal, D. K. Sharma
PID-041	Modeling of a Novel Lower Limb Exoskeleton System for Paraplegic Patients Mrinal Gupta, Jyotindra Narayan, Sanket Pandhare, Shubham Pippal, S. K. Dwivedy
PID-044	Effect of Single Overload on Fatigue Crack Growth in Plastically Compressible Hardening Solid Yash Mittal, Peela Kartheek & Debashis Khan
PID-049	A Retrospective Assessment of Elastic - Plastic and Creep Deformation Behavior in Structural Components Made of Discs, Cylinders and Spherical/Cylindrical Shells Satya Bir Singh, Shivdev Shahi, Pankaj Thakur
PID-050	Characterization of Banana and Bagasse fiber reinforced hybrid epoxy composites Prem Chand R, Ravitej Y P, Shiva Mani Kanta J V
PID-097	Crack Growth Simulations in Quasibrittle Materials using a Localizing Gradient Damage Model Alok Negi and Sachin Kumar
PID-100	Love Wave Propagation in an Elastic Layer Overlying Couple Stress Substrate Richa Goyal, Satish Kumar
PID-101	Delamination Damage Analyses of Lap Shear Joints made with Flat FRP Composite Laminates Subjected to Transverse Load. Sumeet Kumar Pati, Arun Kumar Pradhan, Mihir Kumar Pandit



<u>PID-105</u>	Dynamic Characteristics of Twisted Composite Panels – a Finite Element Study K. S. Shivakumar Aradhya* and S. Moorthi
<u>PID-131</u>	Investigation of Torsional Stability and Camber Test on a Meter Gauge Flat Wagon Apurba Das, Gopal Agarwal
<u>PID-146</u>	Non-Linear Dynamic Buckling and Failure Study of Laminated Composite Plates Subjected to Axial Impulse Loads Vasanth Keshav, S.N. Patel and Rajesh Kumar
<u>PID-155</u>	Adhesion Failure Analyses of Lap Shear Joints Made with FGM adherends Pritam Kumar Kundu, Dr. A K Pradhan, Dr. M K Pandit
<u>PID-156</u>	Numerical Simulation and Wind Tunnel Experiment on Pressure and Velocity Distribution around the Airfoil for Optimize Aerodynamic Model Motahar Reza, Jitendra K Mohanty, Deepak K Sadangi and Anindita M Bhattacharyya
<u>PID-159</u>	A gradient-damage model for cyclic behavior of concrete A H Monnamitheen Abdul Gafoor and D Dinkler
<u>PID-161</u>	Reductions of Bending Stresses and Wear in an Aerodynamic Involute Spur Gear Profile Ravitej Y P, Abhilash O, Naveen kumar
<u>PID-171</u>	Probability of Failure of a Beam Subjected to Randomly Moving Loads Alben Jose Kezhiyur, S. Talukdar & Anjaly J. Pillai