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636	LEAKAGE FLOW CHARACTERIZATION OF OVERLAP SPOOL VALVE UNDER BLOCKED-ACTUATOR PORT CONDITION	Milan K. Mondal, Nirmal K. Manna, and Rana Saha
640	CFD BASED STUDY ON FREE- SURFACE FLOW PAST OBSTRUCTION USING MACCORMACK SCHEME IN DEPTH-AVERAGED EQUATIONS WITH TRANSFORMED COORDINATE SYSTEM	Milan K. Mondal, Somenath Raha, Nirmal K. Manna, and Rana Saha
659	DESIGN AND SIMULATION OF A LOW SPEED WIND TUNNEL WITH ANALYSIS OF WIND EFFECTS ON AN AIRFOIL (VIRTUALLY) BY USING CFD	Rahul Goswami, Srijan Singhal, and Vijay Kumar Dwivedi

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711	NUMERICAL INVESTIGATION OF COUPLED NATURAL CONVECTION AND SURFACE RADIATION IN TOP OPEN CAVITIES WITH RIGHT SIDE WALL OPENING	Ravi Shankar Prasad and Dr. S.N. Singh
714	A 3D NUMERICAL STUDY ON OPPOSED FLOW FLAME- SPREAD OVER THIN PARALLEL FUEL SHEETS OF FINITE WIDTHS IN MICROGRAVITY	Kiran Kumar M N and Amit Kumar
721	UNIFIED SOLVER FOR THERMOBUOYANT FLOWS ON UNSTRUCTURED MESHES	Mukesh Kumar and Ganesh Natarajan
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47	NUMERICAL SIMULATION OF ISOTHERMAL CRUCIFORM JET FLOW	B.T. Kannan and S. Senthil Kumar
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442	EFFECT OF ECCENTRIC DRAIN PORT SIZE ON VORTEX FORMATION DURING DRAINING FROM CYLINDRICAL TANKS	J. Josy, R. Ajith Kumar, A.R. Srikrishnan, R.K. Shaji, and B.H.L.Gowda

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96	STEADY STATE AND TRANSIENT CHARACTERISTICS OF NATURAL CIRCULATION LOOP	A. M. Vaidya, N. K. Maheshwari, and P. K. Vijayan
115	CFD ANALYSIS OF FLOW AND TEMPERATURE DISTRIBUTION INSIDE THE CALANDRIA OF A NATURAL CIRCULATION, VERTICAL PRESSURE TUBE TYPE NUCLEAR REACTOR	Eshita Pal, Jyeshtharaj B. Joshi, Arun K. Nayak, and Palipattu K. Vijayan
129	FLOW CHARACTERISTICS OF NATURAL CIRCULATION VALVE OF UPGRADED APSARA REACTOR – AN EXPERIMENTAL STUDY	Samiran Sengupta, A. Ghosh, C.Sengupta, P.Mukherjee, A.P.Singh, and A.Bhatnagar
130	NUMERICAL SIMULATION OF COOLANT FLOW DISTRIBUTION FROM CORE INLET PLENUM OF A POOL TYPE RESEARCH REACTOR	V. K.Veluri, Samiran Sengupta, S. Mammen, and A. Bhatnagar
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233	WALL SHEAR RATES GENERATED DURING COALESCENCE OF PENDANT AND SESSILE DROPS	Praveen M. Somwanshi, K. Muralidhar, and Sameer Khandekar
245	EFFECT OF AFT WALL OFFSET ON SUPERSONIC FLOW OVER CAVITY	Praveen Kumar Maurya, Rajeev C, Vinil Kumar R, and Aravind Vaidyanathan
451	A NEW APPROACH FOR THE DESIGN OF SUPERSONIC EJECTORS: THE CONSTANT RATE OF KINETIC ENERGY CHANGE (CRKEC) METHOD WITH FRICTIONAL EFFECTS	Virendra Kumar, Gaurav Singhal, and PMV Subbarao

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197	EFFECT OF CENTERLINE SPLITTER PLATE ON FLOW OVER A PAIR OF SIDE-BY-SIDE SQUARE CYLINDERS: A NUMERICAL STUDY	Sreevatsa A, Vikramaditya Gaonkar, and Ravikiran Kadoli

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240	COMPUTATION OF THE FLOWFIELD IN THE VICINITY OF AN ELECTRIC VEHICLE PLATFORM	K. Panchal and M. Damodaran
242	IMPLEMENTATION OF MATRIX DISSIPATION SCHEME FOR NUMERICAL SIMULATIONS OF TWO DIMENSIONAL NAVIER- STOKES EQUATIONS	Shikhar Jaiswal

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172	EVALUATION OF THE GAS KINETIC SCHEME BASED ON ANALYTICAL SOLUTION TO THE BGK MODEL FOR SIMULATING COMPRESSIBLE TURBULENT FLOWS	Nishant Parashar, Balaji Srinivasan, and Sawan Suman
221	A PARAMETRIC STUDY OF DIFFERENT TURBULENCE MODELS PERFORMANCE FOR THE STUDY OF AIR FLOW IN HELMETS	Shishodia B. S., Sanghi S, and Mahajan P
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235	COMPUTATIONAL ANALYSIS OF UNSTEADY FLOW IN TURBINE PART OF TURBOCHARGER	Srinivas Rao H K, Raviteja S, and Kumar G N
310	COMPUTATIONAL STUDY ON PRESSURE SIDE FILM COOLING - EFFECT OF DENSITY RATIO WITH COMBINATION OF HOLES	Radheesh Dhanasegaran, Ssheshan Pugazhendhi, Nagarajan Gnanasekaran, and Rajesh Kumar Panda

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204	TRANSITION IN THE ELLIPTICAL JET CHARACTERISTICS FROM SUPER TO SUBCRITICAL CONDITIONS	C.K.Muthukumaran, Kamalakannan.K, and Aravind Vaidyanathan
238	COMPUTATIONAL PREDICTION OF THE PERFORMANCE OF POSITIVE DISPLACEMENT PUMPS	N. Bhandari and M. Damodaran
502	EFFECT OF ORIFICE RECESS ON THE DROPLET SIZE DISTRIBUTION OF SPRAYS DISCHARGING FROM GAS- CENTERED SWIRL COAXIAL ATOMIZERS	Athul Joseph, P. Nandagopalan, T.J. Tharakan, and D. Sivakumar

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547	CFD STUDY ON FLOW ACROSS A STATIONARY CYLINDER IN- BETWEEN TWO COUNTER- ROTATING CONTROL CYLINDERS	Malhar Dilip Malushte, and Atul Sharma
651	FLUID STRUCTURE INTERACTION OF A FLEXIBLE PLATE IN A COMPRESSIBLE MEDIUM	Dheelibun Remigius.W and Sunetra Sarkar

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216	NUMERICAL MODELING OF MOLTEN CLAD RELOCATION DYNAMICS UNDER UNTRIPPED LOSS OF FLOW SCENARIO IN A VOIDED SFR CORE	B.Thilak, P. Mangarjuna Rao, B.K. Nashine, P. Selvaraj, and P. Chellapandi
325	ENTROPY GENERATION ANALYSIS OF A NUCLEAR FUEL ELEMENT SURROUNDED BY A FLOW OF COOLANT THROUGH AN ANNULAR CHANNEL	Rajeswar Chatterjee, Antarip poddar, Koushik Ghosh, Achintya Mukhopadhyay, and Swarnendu Sen

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482	NUMERICAL SOLUTION OF LAMINAR FREE CONVECTIVE FLOW PAST A NON- ISOTHERMAL VERTICAL CONE USING NSM	Bapuji Pullepu, Sambath P, and lmmanuel Y.
489	HYPERSONIC FLOW CHARACTERISTICS OF COMBINED FLAT PLATE CYLINDER CONFIGURATIONS USING DSMC METHOD	Reji R.V., K.S. Santhosh, and S. Anil Lal
731	RAYLEIGH-TAYLOR INSTABILITY INDUCED LIQUID ATOMIZATION	Vadivukarasan. M and Mahesh V. Panchagnula

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276	MIXED CONVECTION IN A VENTILATED ENCLOSURE WITH DIFFERENT HEATER POSITION	Nirmalendu Biswas, Pallab S. Mahapatra, and Nirmal K. Manna
277	EVALUATION OF FLOW PROPERTIES OF AIR AT THE EXIT OF HOLES ON THE BLOW PIPE IN A PULSE JET FILTER BAG HOUSE	Jayaram Thumbe, Ravikiran Kadoli, and K V Gangadharan
286	NUMERICAL SIMULATION OF POLLUTION DISPERSION IN COMPLEX TERRAIN	Lalit Gangwar and Arun K. Saha
375	EFFECT OF PRANDTL NUMBER ON INTERNAL CONVECTIVE HEAT TRANSFER IN LAMINAR SINGLE-PHASE PULSATING FLOWS	Sushant Kumar, Balkrishna Mehta, and Sameer Khandekar

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400	ASPECTS OF A DIFFUSION- REGULATED SCHEME APPLIED TO HYPERSONIC FLOW	P. Kalita, R. Kumar, and A. K. Dass
410	INFLUENCE OF OPERATING PARAMETERS ON THE BATTERY MODULE COOLING IN HYBRID ELECTRIC VEHICLES	Suhas B.G and A.Sathyabhama
418	FORCED CONVECTION OVER FLATTENED TUBE BUNDLES	Abhilas Swain, Rajiva Lochan Mohanty, and Mihir Kumar Das
420	FORCED CONVECTION FROM AN INCLINED ELLIPTICAL CYLINDER WITH CONSTANT HEAT FLUX: EFFECT OF PRANDTL NUMBER	S. A. Patel and R. P. Chhabra

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550	AN N-NODE WEIGHTED RESIDUAL PROCEDURE FOR ANALYSIS OF DENSITY WAVE OSCILLATION IN HEATED CHANNEL	Subhanker Paul, Ashish Mani Mishra, Vikas Pandey, and Suneet Singh
570	TWO PHASE FLOW STABILITY ANALYSIS OF MULTIPLE HORIZONTAL UNIFORMLY HEATED CHANNEL	Ashish Mani Mishra, Subhanker Paul, Vikas Pandey, and Suneet Singh
571	NUMERICAL INVESTIGATION OF EFFECT OF COLD OUTLET DIAMETER ON COOLING PERFORMANCE OF SHORT DIVERGENT VORTEX TUBE	Pise A.T., Devade K.D., Khomane S.G., and Urade A.R.

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465	EFFECT OF BACKWARD SWEEP ON THE PERFORMANCE OF A TRANSONIC COMPRESSOR ROTOR: A NUMERICAL ANALYSIS	NishaSherief, Shobhavathy M T, and R.Ajith Kumar
474	STUDY OF NOISE AND VIBRATION SIGNAL FOR A RADIAL FLOW PUMP DURING PERFORMANCE TEST	S. Christopher and S. Kumaraswamy
494	DEVELOPMENT OF ONE OF THE WORLD'S LARGEST SINGLE STAGE VERTICAL CENTRIFUGAL PUMPS FOR LIFT IRRIGATION SCHEME	V. Shrinivas Rao, Sachin Kumar Tripathi, and Saurabh Sharma

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524	A HYBRID GRID BASED ALGEBRAIC VOLUME OF FLUID METHOD FOR INTERFACIAL FLOWS	Jai Manik, Amaresh Dalal, and Ganesh Natarajan
526	LATTICE BOLTZMANN MODELLING OF CAPILLARITY- INDUCED RESONANCE OF BLOB INSIDE A CIRCULAR TUBE	Pitambar Randive, Saurabh Bhardwaj, and Amaresh Dalal
549	AN EXPERIMENTAL INVESTIGATION TO ANALYZE THE HEAT TRANSFER CHARACTERSTICS OF HOT SURFACE BY OBLIQUELY IMPINGING LIQUID JET	Manish K Agrawal, Mayank Modak, Palash Gupta, Satish Chandra, and Santosh K Sahu

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280	NUMERICAL ANALYSIS OF FLOW SEPARATION IN ROCKET NOZZLES	K Sreejith, M P Dhrishit, M Deepu, and T Jayachandran
658	EFFECT OF ATTACHED TYPE SPLITTER PLATE LENGTH OVER A SQUARE PRISM IN SUBCRITICAL REYNOLDS NUMBER	Manish Kumar Chauhan, Bhupendra Singh More, Sushanta Dutta, and Bhupendra Kumar Gandhi
660	INVESTIGATION OF FLOW INTERFERENCE BETWEEN TWO INLINE SQUARE CYLINDERS WITH DIFFERENT SPACING RATIOS IN SUBCRITICAL REYNOLDS NUMBER REGIME	Bhupendra Singh More, Manish Kumar Chauhan, Sushanta Dutta, and Bhupendra Kumar Gandhi
692	VARIATION OF SPRING DISPLACEMENT UNDER THE ACTION OF OCEAN WAVE FORCE ON VERTICALLY SUBMERGED CIRCULAR THIN PLATE AT SHALLOW WATER	Pradip Deb Roy, Shantanu Dutta and Ranjan Kumar Mitra

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436	HEAT TRASNFER CHARACTERISTICS OF HOT SURFACE USING HIGH ALCOHOL SURFACTANT BY IMPINGING LIQUID JET	Manish K Agrawal, Mayank Modak, and Santosh K Sahu
460	SIMULATION OF MULTIPLE LOOP CHANNEL TYPE NATURAL CIRCULATION BWR FOR COLD START-UP WITH MULTI-POINT KINETIC MODEL	Amitanshu Mishra, S.K. Pradhan, Obaidurrahman. K, A.J. Gaikwad, and S.B. Chafle
504	DEVELOPMENT OF A CFD MODEL FOR CATALYTIC RECOMBINATION AND ITS VALIDATION AGAINST THE PASSIVE AUTOCATALYTIC RECOMBINER INTERACTION STUDIES (PARIS) BENCHMARK EXERCISE	S. Ganju, B. Gera, Vikram Shukla, and R. K. Singh

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275	ENERGY LOSS MINIMIZING DRAG REDUCTION AND SELF- PROPULSION STRATEGIES	Pritam Giri and Ratnesh K. Shukla
283	DUST DEPOSITION ON HELIOSTAT: UNDERSTANDING AND EVALUATION	Navneet K. Yadav, Deepakkumar M. Sharma, and Laltu Chandra
287	DESIGN OF A CYCLONE SEPARATOR FOR CLEANING OF DUST FROM VOLUMETRIC AIR RECEIVER	Gurveer Singh, Dheeraj Saini, Laltu Chandra, and Rajiv Shekhar
290	INFLUENCE OF DELTA WING VORTEX GENERATOR ON COUNTER ROTATING VORTEX PAIR IN FILM COOLING APPLICATION OF GAS TURBINE BLADE	Nirmal Halder, Arun K Saha, and P.K.Panigrahi

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432	PREDICTION OF HYDRAULIC CHARACTERISTIC OF THE OUTLET PLENUM OF UPGRADED APSARA REACTOR	Anil Pathrose, Vimal Kotak, S. B. Chafl, and Sujay Bhattacharya
459	FLOW ANALYSIS OF SUBSONIC AND SUPERSONIC NOZZLES	Dharti Parmar, Meha Setiya, Beena Baloni, and S. A. Channiwala
463	NUMERICAL SIMULATION OF NONLINEAR NEWTONIAN BLOOD FLOW THROUGH A STENOSED ARTERY UNDER THE INFLUENCES OF PERIODIC BODY ACCELERATION	Satyasaran Changdar, Soumen De, and Samiran Ghosh
467	A COMPARATIVE ANALYSIS OF HEAT TRANSFER IN EXTENDED SURFACES WITH AND WITHOUT HOLES	Saroj Yadav, Koushik Das, and KrishnaMurari Pandey
519	NUMERICAL SIMULATION OF SOLIDIFICATION AND MELTING PROBLEMS ON UNSTRUCTURED GRID	Debraj Das and Amaresh Dalal

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527	NUMERICAL SIMULATION OF PULSATILE FLOW PAST HEATED SQUARE CYLINDERS	Mohammad Khalid, Raunaq Haseeb, and Syed Fahad Anwer
528	3D UNSTEADY NUMERICAL SIMULATION OF ALL- VANADIUM REDOX FLOW BATTERY	Sathisha H.M. and Amaresh Dalal
531	COMPUTATION OF FLOW COUPLED WITH THE ELECTRIC FIELD ON UNSTRUCTURED GRID	Sunil G N, Amaresh Dalal, and Ganesh Natarajan
557	A COMBINED IMPLEMENTATION OF OVERSET GRID AND PATCHED GRID METHODOLOGIES	Jyothi Kumar Puttam
591	NUMERICAL INVESTIGATION OF FREE JET EXPANSION OF GAS MIXTURE	Pranit Gaikwad, Arvind Deshpande, Atul Tak, and A.K.Das

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288	SELF-SUSTAINED OSCILLATION FOR A THREE DIMENSIONAL TRANSONIC CAVITY USING LES	K.M. Nair, S. Sarkar, and Z. Labana
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