रासायनिक इम्बीनियरिंग

Vapo-Liquid Equilibria Eor the 2-propanol-Toluene system at 760 and 550 Torr, (J Chern Engg Data 30, 361, 1985) V Y C Rao and Rahel Basu. particles Hydraulic Transport of Coarse In Viscous Newtonian and non-Newtonian Media, (Chern Res Des, 63, pp 390-397, 1985) Enqq R P Chhabra and J F Richardson Steady non-Newtonian Flow about a Rigid Sphere, (Encyclopedia of fluid Mech, Vol 1, pp 983-1032, 1986) R F Chhabr3 Tracer Diffusion in Mercury: A predictive Equation, (Metallurgical Transactions, 17A, pp 355-358, 1986) R P Chhabra Thermal Characteristics of Syn thetic Sodium Zeolites Prepared with Silica from Rice-Husk Ash, (J Thermal Anal 31, 1986, p 33-39) M S Rao, K V G K Gokh~le and A K Dalai Studies on Oxidative Molybdate-Aluminium Dehydrogenation of n-Butane on Bismuth Cha~acterization (J Phosphate 95-109) Catalysts-I, M S Rao and S C Catalyst Chern Tech Biotechnol, 36,3, 1986, Shenoy Studies on Oxidative Dehydrogenation oE n-Butane on Bismuth ~blybdate-Aluminium Phospbate Catalysts II. Activity and Selectivity, (JChern Tech Biotechnol 36(3), 1986, 110-121) M S Rao and S C Shenoy Computer-Aided Design *oE* Chemical Process Systems, (Proceedings oE Workshop on ENGSAR, 1985) D N SaraE

Jf State Calculations for CO, C2B4 & N_2 using In Theory. Effect of Damping the Quadrupoleand Induced-Quadrupole Series at Small Inter3eparation, (Can J of 'Chem Engg 25, 1986,7) , S V Babu and Ratan Mohan 1-2 Heat Exchanger Trouble Shooting (Int Commun j Mass Transfer, 13-2, 235-243, 1986) ta and S Reginald of Miscible nental Investigation, of Stability (Chern isplacement in ~a Porous Medium, 1,1 985, pp 1 - 6) Enqq 3yan and B W Walsh ical Analysis of Unsteady Flow and Heat Transfer s Medium, (lnt J Engg Sci Feb 1986) 3yan, P Singh and J K Mishra 2ssures of Heavy Liquid Hydrocarbons Contain2n or Sulfur, (Can J Chern Engg 63, 856, 1986) ${\sim}h$ and S C R Chandar . 1ent Vapour Pressures of Heavy Hydrocarbons Nitrogen or Sulphur Using the UNIFAC Group In Method, (Fluid Phase Equilibria, 24, 177, 1985) ~h and S C R.Chandar In of Nonvaporizing Nylon 6 He:3ctors with Jnditions, (J Appl Polym Sci 30, 4529, 1985) ta and A K Ray In of Nonvaporizing Nylon 6 Reactors with Jnditions and End-Point Constraints, (Polym Eng JO, 1986) ca and A K Ray oE Melamine Formaldehyde Polymerization II: c of a Simpler Model, (J Appl PJlym Sci 31, 0000,

11 • 58

Flow Curve Determination for Non-Newtonian Fluids ----a Sequel, (Chern Eng Education in press, 1986) S K Gupta and M Tjahjadi Effect of Segmental Diffusion on Irreversible, Step Gro~th Polymerizations 9f ARB Monomers, (Polym Eng Sci, 26~ 0000, 1986) S K Gupta, A Kumar, K Saks~na and J P Foryt Effect of Intramolecular Reactions in Multifunctional Step Growth Polymeriz?tions in Cascades of CSTRs, (Polym Enq Sci, 26, 0000,1986) S K Gupta Modelling of Intramolecular Reactions in Step Growth Polymerization of Multifunctional Monomers, (Polymer, 27, 583, 1986) A Kumar, S K Gupta, S Wahal and S Sastri Role of Rhenium in Pt-Re-Al2 03 Reforming Catalysts- Ap Integrated Study, (AIChE J December 1985, 1997) R D Srivastava, S Bhatia, K N Rai G K Mehta, A K Nayak & K Jothimurugesan Kinetics of Dehydrogenation of Methylcyclohexane over Pt-Re-A1203Catalyst in the Presence of Added flydrogen, (I & EC-Fundam, 1985, 24, 433-438) R D Srivastava and S Bhatia (e'4~ ~ CHEMISTRY A Convenient method of benzylic oxidation with Pyridinium Chlorochromate, (Synth Commun 16, 1493, 1986) R Rathor~, N Saxena and S Chandrasekaran A mild and highly selective method of regeneration of carbonyl compounds from OXlmes and 2,4-dinitrophenylhydrazones (J Org Chern 17, 3063, 1986)

P S Vankar, R Rathore and S Chandrasekaran

Substituent directed oxidative cyclization with cetyltrimethyl-ammonium permanganate: A general synthesis of~ and&-lactones (Tetrahedron Letters, 27, 4079, 1986) R Rathore, P S Vankar and, S Chandrasekaran Studies on Starch from an Indian Crocus (Starke, 37, 220, 1985) SAS Cra"iq, J R Stark, D N Dhar and UK Tiwari Oxidation of Thioamides with Ceric AmrronilJm Nitrate: Transformation of Thiocarbonyl to Corresponding Oxygen Analogue (Indian J. Chern, 248, 445, 1985) D N Dhar and A K 8ag Preparation & Spectroscopic Studies of~ -Cyanoanils and derived from p-Hydroxy (p-chloro) phenylglyoxal AnUs (H.Chemical~' & Pharm. 8ulletin, 2, 49, 1985) D N Dhar et al Recent Advances 1n the Cnemistry of ChlorosulEonyl Isocyanate (Synthesis, 437-449, 1986) D N Dhar and K S Keshava Murthy A Novel Photo-Oxygenation Reaction of Diosgenin (Indian J. Chern., 258, 432, 1986) S Joshi and D N Dhar. Reaction of Chalcone with Sulphur (Indian J. Chern., 258, 532, 1986) S Joshi and D N Dhar Ceric Ammonium Nitrte Oxidation of Some Esters (Indian J. Chern., 258, 433 (1986) A K 8ag, S R Gupta and D N Dhar Photoluminescence of "2-(O-Aminophenyl) benzimidi3zole (J. Photochem., 31, 1985, 333) A K Mishra and S K Dogra

Ground and Excited State Phtotropism in 2-(2-Hydroxypheny1) benzimidazole (Chern. Phys. 102, 1986, 337) H K Sinha and S K Dogra Photophysical Behaviour of 3-Indazolinone (Chern. Phys., 103, 1986, 325), M Krishnamurt~y and S K Dogra Electronic Spectra of Harmane : Study of Solvent Dependence (Indian J. Chern., 25A, 1986, 178) M Krishnamurthy and S K Dogra Absorption and fluorescence spectra of p-(imidazol- l-yl) phenol, Study of solvent dependence and determintion of acidity constants (Indian J. Chern., 25A, 513, 1986) P Phaniraj, M Krishnamurthy and S K Dogra Study of solvent and pH dependence on absorption and fluorescence spectra oE 2-aminochrysene (Indian J. Chern., 25A, 517, 1986) R V Subba Rao, M I<rishnamurthy and S K Dogra Fluorescence behaviour and it acid-base behaviour in of 3-aminocqumarine state s Photochem., 34, 55, 1986) th (J. excited singlet R V Subba Rao, M е Krishnamurthy and S K Dogra Ionisation equilibria and electronic spectroscopy of 5hydroxyindole-2-carboxylic acid (H. Photochem., 34, 209, 1986) P Phaniraj, H K Sinha and S K Dogra Study of solvent and pH dependence on the absorption and 2luminescence characteristics of hydroxy carbazole (Spectro Chim Acta, 42A, 793, 1986) M Krisnnamurthy and S K Dogra

Palladium. (II), Platinum (11) and Platinum (iii) ~lexes of 2-Mercapto-3-phenyl-4-quinazolinone Reactions of Palladium (II) Chloride and Platinum (IV) Chloride with 2-Mercapto-3phenyl-4-quinazo- linone in the Presence and Aosence of, var ious, N-Heterocyclic Bases (Transi tion Metal Chemistry, 10, 469-472, 1985) Sheo K Dikshit pnd Hari K Gupta Transition Metal Corrplexes of N-CarboettJoxytoluene-4thioamide (Synth React Inorg Met-Org Chern, 16, xxx, 1986) S K Dikshit and Veena Chauhan Kinetics and Mechanism of reaction between 1,2-diamino propanetetraacetatoferrate (III) and cyanide ion (lnorg. Chimica Acta, 114, 55-61, 1986) P C Nigam and R M Naik Kinetics of oxidation of Diethylenetriamin-pentaaacid cetic by Hexacyanoferrate (III) (Indian J Chern, 25A, 1986) 39-43, P C Nigam, Miss Nishi Gupta and R M Naik NMR Imaging: Methematical ~elling and Spect.rometer Considerations (In Pree Ind Acad Sci, July 1985, Vdl Design 59-75) 95, P Raghunathan, S K~ishnan and K R Srivathsan pp Ab Initio Molecular Orbital Studies of Fluorine Dioxide, Chlorine Dioxide, and their Isomeric Peroxy Radical Forms (In J Molecular Structure - Theochem, October 1985, Vol. 13 3, pp 25 - 3 5) P Raghunathan, R K Gosavi and O P Strausz Magnetic Resonance Lineshapes in Powdered and Amorphous Systems (In Proe Ind Acad Sci - Chern Sci, April 1986, Vol 96, pp 565-580) P Raghunathan and S C Sivasubramanian

Low Temperature Photolysis of Perfluorodiazo p=ntanones, (In Chern Phys Letters, June 13, 1986, Vol 127, pp 205-209) PRaghunathan, M Torres, J L Bourdelande, A Clement, G Toth and O P Strausz r-biecular Oxygen Insertion into fur picolyl, Thernyl and fury 1 coba Ioxirra: 3 under thermal and photo chemical conditions and the: r decaTIp)sition studies (Inorg Chim, Acta 108, 261-6, 1985) B D Gupta ana Suj: tRoy Halogenolysis of p-substituted benzyl cobaloximes Part II (Inorg Chim, Acta, 113, 9-12, 1986) B D Gupta and Manoj Kurrar. Chemical Implication of 2~u-r-b Antagonism Sobrbilisation of Cu-S with r-b S~ -(VI) Anion to Isolate Discrete Cu-S-Mo Compounds (J Indiana Chern Sac LXII Diamond Jubilee Issue, 1985, p-821) S Sarkar and S B S Mishra First Report of the Reductive Nitrosylation of Tungstate (VI) by Hydroxylamine * Stereospecific Synthesis of \mathbb{C} W(NO)2 ~2 (L)2 J (L=py, 3 Me-Py, 4-Mcpy), (Chim Letters, The Chemical Society of Japan, 1985, 1633) S Sarkar, I B r-bhammad and P Subramanian Pentacoordinate Complexes of Molybdenum (I) (J Coord Chern, 1986, 14, 275) S Sarkar and P Subrarranian Cbnversion of WJS~- into [W202 (-S)2 (S2) 2 ${
m J}$ 2.a~d vice versa by Internal Redox Processes Induced by 12 and S~- (J Chern Soe, Chern Commun, 1986, 324) S Sarkar and M A Ansari

```
Photochemical transformations of (E)-1-(2'-arylidene -1 '-
phenylhydrazinyl)-1,2-dibenzoylalkenes (J Drg Chem, 51, 1972,
1986)
   S Pratapan, P M Scaria, K 8hattacharyya,
  P K Das and M V George
Photoinduced ring enlargement reactions of 28-1,2,4-
benzothiadiazinE:! 1, I-dioxides. Steady-statE~ and laser
flash photolysis studies (J Org Chern, 51, 1967, 1986)
   C V Kumar, K R Gopidas, K 8hattacharyya,
   P K Das and M V George
Physical aspects of benzoylaziridine photochemistry. Spectral
and kinetic behaviors of azomethine ylides and related
photointermediates (J Phys Chern, 90, 3221, 1986)
   K Bhatta':haryya, ∖.)
   Ramamaih, P K Das and M V
   George
                                      of sydnone triplets.
A laser flash photolysis study
                                      oxygen sensitization (J
Photophysical behaviors and singlet
                                      occasion of Prof Sadhan.
Ind Chern Soc - Special issue on the
Basu's 65th birthday - In Press)
   K Bhattacharyya, M Muneer, R K Tikare,
   P K Das and M V George
React i vi ty of sydnon!=.s wi th singlet oxygen (J Photochem,
34, 13, 1986)
   K Bhattacharyya, P K Das and M V George
Electron transfer reactions. Reaction of furnones and
bifurandiones with potassium (Chern Ber, 119m 917, 1986)
   B Pandey, R K Tikare, M Muneer,
   P V Kamat and M V George
 Steady-state and laser flash photolysis studies of bridge-
 head substituted dibenzobarrelenes (J Org Chern, 50,
 2522,1985)
    BAR C Murty, S Pratapan, C V Kumar, P
    K Das and M V George
                                 11.64
```

Photochemistry of aromatic o(. P -epm, yketones. Substituent effects o oxirane ring-opening and related ylide behavior (J Org Chern, 50, 2818, 1985) C V Kumar, O Ramaiah, P K Das & M V George and Photophysics , of furanoxy radicals. Fluorescence triplet-doublet energy transfer (J Phys Chern, 89, 4164, 1985) K Bhattacharyya, P K Das, R W Fessenden & M V George Photoinduced electron transfer reactions of 2(3H) furanones and bis (benzofuranones). Spectral and kinetic behavior of radicals and radical cations (J Org Chern, 50m 365, 1985) H F Davis, . B B Lohray, K R Gopidas, C V Kumar, P K Das and M V George Steady-state and laser flash photolysis studies of 1axiridinyl-1, 2-dibenzoylalkenes (J Org Chern, 50, 4309, 1985) R Barik, C V Kumar, P K Das and M V George Microprocessor - Controlled Pulsed NQR Spectrometer for Automatic Acquisition of Zeeman Perturbed Nuclear Quadrupole Spin Echo Envelope Modulations (ZSEEM) (2 Naturforsch, ~la, 449-452, 1986) P T Narasimhan, N Reddy and A Bhavsar Molecular Orbital Treatment of Differential Overhauser Enhancements of Solvent Nuclei. Applications to Fluorocarbons (Molec Phys, 54, 1415-22, 1985) P T Narasimhan ctnd A Tripathi सिविल अभियंत्रण विमाग CIVIL ENGINEERING Recent Developments in water Filtration (Proc 11th National Oonventiion on Environmental Engg., Allahabad, 1985) ${f J}$ S Shah, S D Bokil and M Chaudhury 11.65

Bituminous Coal Surface Modification to Enhance Mercury (II) Removal from water (Asian Environment 7:22, 1985) J Karthikeyan and M Chaudhury Removal Mercury (II) from water by Chemically Pretreated, Coal (Proc. IAWPC and NEERI , Silver Jubilee seminar, Nagpur, 1985) J Karthikeyan and M Chaudhury Thermal Characteristics of Synthetic prepared with Silica from ricE husk ash Sodium Zeolites Analysis Budapest, Vol 31, 23-35, 1986) (Journal of K V G K Gokhale, A K Dalai and M S Thermal Rao Synthesis *oE* NaX Zeolite using Silica from Rice Husk (Journal: Industrial Engg Chern Products A;:ih Development, USA, 24, 465-468, 1985) Research & A K Dalai, M S Rao and K V G K Gokhale El.astic-Plastic Finite Element Analysis οЕ SOILE Soil-Foundation Interaction Problems (Proc of lnt ConE on Finite Elements in Computational Vol Mechanics, Bombay, Dec I, 495-504, 1985) S L Narasimhan and N S V K Rao Flexural Response oE Piles Driven through Soils Compressible (Proc of Indian 'Geotechnical ConE, Vol 1985) 1, 273-280, P K Basudhar, R K Agarwal, and R C Baranwal Stability of Thin Rectangular Elastic Plate under a Follower Force (Mech Res Corom, 1986) Ashwini Kumar and A K Srivastava Dynamic Plastic Response to Circular Plates with Transverse Shear (ASME J App Mech - accepted) Ashwini Kumar and V V Krishna Reddy

'Mineralogy and Geochemistry of Laterite Soil Profiles in Kerala - India (Proc of Int Seminar on Laterite, Tokyo" Oct 14-17, 293-298, 1985) B C Ray Mahashay and others Geochemistry of Bicarbonates in River Water (Jour - Geol Sac India ,VSV Vol, v.27, Jan.1986, 114-118 B C Ray Mahashay and others Impact of Ground Water Dp.velopment Environmental for Irrigation and Water Supply (Presented at Royal Nepal Academy of Science, Kathmandu, Feb 1986) V Lakshminarayana Evaluation of Soluble versus Insoluble Process for Removal and Recovery of Chromium From Waste Waters (Proc of 2nd Int Conf on Heavy Metals in the Environment, Athenes, Greece, Sept 1985) V Tare and S Cha~dhury Modelling and Simulation of Gramular Filters: Model Development calibration and Verification (Proc of the 4th WOrld Filtration Congress Ostend, Belgium, April 1986) V Tare Modelling and Simulation of Granular Filters State (Proc of the 4th World Filtration Congress, Ostend, Belgium, April 1986) V Tare Treatment of Urea-rich Fertilizer Waste by Attached Growth Convention on microbial sys(em (Proc 11th National Enviramental Engg, IPHEA, April 1985) L Iyengar, Vijaya Lakshmi, A V S P Rao Indo-Swedish Traffic Simulation Model - A program for Monte carlo Simulation of Heterogenous Vehicle Traffic along single lane, Intermediate lane and Narrow Two Lane Roads S p. Pal an iswamy

Indo-Swedish Road Traffic Simulation Model: Generalised Traffic System Simulator, (Transportation Research Record, 72-80, Proc of National Research Council, washington, DC, 1985) S P Palaniswamy Optimal Design of 8us Routes and their FreqLlencies for Ahrredabad (TR8 Record No.994 of Transportation Research Board, Washington, DC-1985) 8 R Marwah A Unified Disaggregated Simulation · Approach to Travel Forecasting (Proc of 14th Int Conf on Applied Simulation and r-bdelling Vancouver-Canada, June 1986) 8 R MarW81¹J Developmrent of a Traffic Simulation Model for an India Signalized. Corridor (Journal of Indian Highways, q 1986) January 8 R Marwah Chromium Removal and Recovery from Tannery waste-waters - A Critical Study (Presented at the National Seminar on Pollution Control and Environment M3nagerrent, NEERI, Nag~r - 1985) V Tare, C Venkobachal:' Enhancerrent of Methane Yield - A Study on Effect of fine and grannular Additives on Anoxic Digestion of High BOD wastes (Presented at the 7th Miami Int Conf on Alternate . Energy Sources held at Miami, FL, USA -1985) C Venkobachar, r~ela Iyengar and AK Jain Attached Gro\~th Anaerobic Reactor for the treatrrent of High BOD Wastes (Presented at 11th National Convention on Environmental Engineering, Institute of Public Health Engineers, India, Allahah3d-1985) A K Jain, Leela Iyengar and C Venkobachar

New Conceptual Formulation for Prediction of & filter Performance (Environmental Science Technology, .19, No 5, 1985, 497-499) V Tare and C Venkobachar Country Pap,er Hazardous Waste Management 'in India (Presented at Study Meeting on treatment of Hazardous Chemicals and wastes at Wiesbader/Hessen, Federal Rep oE Germany - 1986) C Venkobachar and Leela Iyengar विद्युत अभियंत्रण विभाग ELECTRICAL ENGINEERING Microprocessor based muscle fatigue moni tor (38th ACEMB, American Congress Hotel, Chicago, Illinois, Sept 30-Oct 2, 1985) G C Ray and S S Bhasin Further Investigation on Pratyahar: A n~cent Meditation Technique LJournal of the Institution of Engineers, India, Vol 66, pp 29-32, February 1986) G C Ray Microprocessor-based Electrocardiometer (Journal of the pp Institution oE Engineers, India, Vol 66, 33-35, February 1986) G C Ray A Novel Method of Reducing the Storage Time oE Transistors (IEEE Electron Cevice Letters, Vol EDL-6, pp 578-579, November 1985 J Narain Optimal Reactive Power Control using Linear Programming (Processing, Fourth National Power Systems Conference, BHU Varanasi, Paper No A2.7, February 15-17, 1986) T L Jose, K R Padiyar and R P Aggarwal

Economic Benefits of Energy Control Centers (Proceeding, Fourth National Power Systems Conference, BHU Varanasi, Paper No C4.6, February 15-17, 1986) R P Aggarwal Role of Reactive Power , in Power System Operation (Proceeding, National WOrkshop on SY~item Power NTPC, New Delhi, April 7 & 8, Operation, 1986) R P Aggarwal and K R Padiyar Computer Aided Dispatch for ?ower System Secure Operation (Proceeding, National Conference on Recent Trends in Elect., IIT New Delhi, Energy System, May 21-23, 1986) R P Aggarwal Reactive Power Control Using Dual Interval Programming . (Proceeding, Second Int Conf on Power System Monitoring and Control, Univ of Durham, UK, July 8-11, 1986) K R Padiyar, R P Aggarwal and T L Jose Theory and Design of a Wireless VLF/ELF Communication Link Eor Coal Mines (Proceeding, National Seminar on Instrumentation in Mining Industry at Indian School of Mines, April 14, 1986) R Raghuram and P K Joshi An Ethernet Like Loca 1 Area Network' (Proceedin~, SOFCOM, Calcutta, December 18-19, 1985) S Oulaganathan, Sanjay K Bose and G Barua Protocols Coll Resolution using Packet Sub-Eor High Throughputs Dee (Proceeding, . SOFCOM, ision division 18-19, 1985) Calcutta, K Bose San jay

A Low-Cost Emulator for INTEL 8085A Based Microprocessor (Microprocessors and Microsystems, Butter- worth & Co., Vol 9 ,No 8,- pp 400-404, OCt 1985) San jay K Bose Satellite CO[ffill1llicat:ion Part 2 (Proceeding, SJIETE, Vol 26, tb 8, pp 75-84, July 1985) Vishwanath Sinha More than Two Decades of BCB Codes (Proceeding, IEEE Seminar on Distributed Canputer Control and Monitoring Systems, New Delhi, Nov 7-8, 1985) Vishwanath Sinha <u>3 q:!JE ?1\n (g1ITn9't - VCfi ~ 1btH or</u> 13t'fm;t 'fmftq ~ <u>3 q ,g ?1\n ~ gUII eft</u>fJtfr smo ~ <u>g)?1lfi t</u>3'tnTtrr ~ <u>1</u>\$ **IIf~''** M 1 ~ err <u>ibltilR,JinFru</u> Jtnit:rr ~,31EJOf<:'~TG,\jj'idt1 1-9, 19861 <u>fb~ (1"1 1 U fu:=Et-</u> smcfttT ~. (i fQ' 1 err rt ... c!t ill J:^c4c"f1 (, & ~~e:t 1~ .~ Fe-& qrr $qJIJIT!cfi \sim 111, \sim, (n'\overline{14} \sim$ ~fql'1,q;I'1a(, ~ 15-11, 19861 ~HI~~~eHIa f'Mt=Et Modes of operation, analysis and evaluation of filter inductance for 3-phase fully-controlled con- verter-Eed dc motors (IEEE Trans on Power App and Systems, Vol PAS-104, No 7, pp 1783-"1788, July 1985) P S Bhat, G K Dubey and R Ghosh Steady state and dynamic response analysis of chopper controlled dc separately excited motor (IEEE Trans on PAS, Vol PAS-104, No 7, pp 1775-1782, July 1985) K B Naik, G K Dubey and V K Jain Step-up chopper drive with" regeneration Eor battery operated

G K Dubey, M V Kotappa and B K Patel

1985)

11. 71

vehicle control (Proc IEEE IAS Annual Meeting, pp 1052-1054,

Design, rrodelling and stability analysis of a limit current controlled chop~r-Eed dc 'separately excited (Proc nutor IEEE IAS Annual Meeting, pp 1594-1601, 1985) K 8 Naik, G K Dubey and V K Jain Three phase regenera t i ve ' converter with on controlled Elywheeling (Proc IEEE Trans Ind Appl, Vol IA-21, W 1431-1440, Nov/Dec 1985) S P 8hat and G K Dubey Two stage sequentially o~~ated regenerative converters wi th control Elywheeling (Proc IEEE Trans on lnd Appl, Vol IA-21, pp 1441-1452, Ncw/Dec 1985) S P 8hat and G K Dubey Parameter estimation *oE* MOSFETs using cross-modulation (Physics of Semiconductor Devices, Ed. SC Jain et aI, 1985) R Sharan and K R Srivathsan Shunt resistance and soft reverse characteristics of silicon diffused junction solar cells (Solid State Electronics, Vol 29, June 1986) R Lal and R Sharan Digital Simulation of HVDC System with Ac ~iystemand Filter Representation (Proceeding, Fourth National 1'0\Yer Systems ConE, Varanasi, February 1986) K R Padiyar, Sachchidanand and Sanjeev ~Istogi Study oE Converter Control Stability for 'I\~o Terminal HVOC Systems (Proceeding, National Systems ConE, Allahabad, December 1985) Sachchidanand and 8harti Pandey Digital Simulation of a Three Phase AC-DC ~M Conv~rter Motor System using a New State Space Converter Model (Proceeding, 198,5 Annual t-Eeting of IEEE Industry Appl Sec, Denver, Colorado, Sept 1986) S P Yotikar, S R Doradla and Sachchidanand

Determination of silicon-silicon dioxide interface state properties from admittance measurements under illumination (Journal of Applied Physics 58, pp 4256-4266, 1985) S Kar and S Varma

Dependence of Si-SiO interface state density on oxide thickness in structures with ultrathin (79-227 A) oxides (Applied Physics Letters 47, pp 1203-1205, 1985) S Kar, **O** Shanker and K S Chari

Characteristics of silicon-oxide interface states in subrnicron structures (Journal of Applied Physics 59, x, 1986)

S Ka~ and R L Narasimhan

An investigation of optically-activated Si-SiO interface states in metal-oxide-silicon structures (IEEE Transactions on Electron Devices EO-33, x, 1986) S Kar and M Tewari

Nature of defects induced by electron beam evaporation and their interaction with illumination (Emerging Semiconductor Technology, STP 960, OC Gupta and PH Langer, Eels American Society for T~esting and Materials, 1986) S Kar and M Tewari

HUMANITIES & SOCIAL SCIENCES मानविकी तथा सामाधिक विशान विभाग

Economic

अयंशास्त्र

S

Measurement of sectoral income and employment multipliers for the economy of Uttar Pradesh: An application of semiclosed input-output model (The Indian Journal· of Economics,' Oct 1985, Vol 66, No.261, 183-202) R R Barthwal and Nirankar Srivastava

Private tubewell utilistion in Punjab: A Study of cost and efficiency (Economic and Political weekly, Vol XX, No 40, Oct 5, 1985, pp 1703-12) J Jairath Social conditions of technology use: A Study of irrigation and production in Punjab: 1965-70 (Economic and Political weekly, Vol XXI, No 13, March 29, 1986, pp A··26-A-37) J Jairath Primacy of corporate divident decisions (Indian Economic Journal, October 1984, pp 56-73) T V S R Rao Efficiency of rai.lway transportation: The Indian experience in KJ Bulton and DC Pitfield, (Eds Int Railway . Economics, Aldershot-Gower Pub Co, 1985, pp 297-319) T V S R Rao Demand responsive supply procedures for freight ~ervlces on a railway network (Indian Journal of Economics, July 1985, pp 1-20) T V S R Rao Efficient choice of the quality of products (International Review of Economics and, Business, July 1985, pp 609-624) T V S R Rao Engl अंग्रे भी ish The origin of Whitman's 'Out of the Cradle Endlessly Rocking' (/', merican tbtes and Queries, 23, 1985: 109-111) S K Ai thaI The redemptive return: Scott Momaday's HOUSE MADE OF DAWN (North Dakota Quarterly, 53, 1985: 160-72) S K Aithal 11.74

On the unity of Indian literatures (Profile~i in Indian Languages and Literature, ed A K Biswas, 1985, pp 97-109) R K Gupta Schopenhau~r, Marx, and Freud on literature (Schopenhauer Jahrbllch, 1986) R K Gupta Anatany of Indian mind (Sunday Review, 1985) R K Gupta r-txjern Indo Aryan languages (Prof iles in Indian Languages and Literatures, ed A K Biswas, 1985, pp 27-38) A C Pandey Language. Choice in planning education in India (Profiles in Indian Languages and Literatures, ed A K Biswas, 1985, pp 247-262) B N Patnaik Englishization of Oriya. In Bh Krishnamurti et aI, eds. (In South Asian Languages: Structure and' Diglossia, Motilal Banarasidass, Delhi, 1986, pp 232-243) B N Patnaik and Ira Pandit बर्शन शास्त्र Philosophy Philosophy of Law Tzu Sevananda Centenary (Commemorative Volume) Swami S N M3ha jan Oblig~tion, inclination and moral failure (Journal of the Indian Council of Philosophical Research, October 1985) R Prasad

Sartre's phenomenological ontology of consciousness (Indian Philosophical Quarterly, Vol XIII, No 1, January 1986) S A Shaida

Psycholctjy

मनोविज्ञान

Need for nurturant-task leader in India: Some empirical 1986, Vol evidence (Management and Labour Studies, January II, pp 26 - 36) M A Ansari Effect of noise, vehicular control configuration and motor load on human performance. In I O Brown, et al Eds, ERGONOMICS INTERNATIONAL 85, (Proceedings of the Ninth Congres of the International Ergonomics Association, Boumemouth, England, pp 754-756, 1985) N K Sharma, S A H Rizvi, J L Batra Managers' Self-representations in Selection Interviews: A managers (ASCI Journal of Study of High and Low rated Management, March 1986) Usha Kumar Development of rural poor: The missing factor (The Eastern tlnthropologist, Vol 38 (3), 1985) Om Prakash and P N Rastogi Development of rural "(;X) or (IFDA Dossier, January/ 1986, 51, International Foundation . for February Development) Om Prakash and P N Rastogi Effect of sex, vehicular control configuration and motor load on human performance (In 10 Brcwn, et al Eds Erogonomics Int 85, Proceedings of the Ninth Congress of the Int Ergonomics Assocn, 1985, Bournemouth, . England, pp 757-759) N K Sharma, S A H Rizvi and J L Batra Hemispher ic invol vement in field-art iculation: Effect of performing Rod-and-Frame Test on concurrent unimanual tapping (In PN Saxena and Usha Singhal Eds Proceedings Pt I of the V lmnual Conference of Indian Academy of Neurosciences, J N Medical College, Aligarh Muslim University, Aligarh, India, 1986)

N K Sharma and K Santhakumari

Quality education: Review of the concept and empirical dilrensions (Indian Educational Review, 20, 4, 1-19, 1985) A K Sinha Interrelationship among leadership styles, interpersonal **need** structure, ' and organizational cli ate (indian ~ "1 a s ==== cd l Sumer ...t:~~..:~-::!:='~ =-~_ I- suggested putisoment (lournal :i~l ... S')-::~~:~ .. , **l:S.** ~, ~ K (485-488, 1985) Sinha and P Kumar Stress at work: Correlates of perceived time rgency and challenge 1n work (Psvchological Studies, 3"1, 1, 48-50, challenge 1n work (Psychological Studies, 3"1, 1986) A K Sinha and S Singh Effect oE surface properties on perception of illuminated objects (Proceedings of Int ~MSE ConE on Modelling & Simulation, 4, 61-68, 1985) ~ K Sinha, H V Sahasrabuddhe, P Kumar and S Singh Sociology समाब शास्त्र Fami)y in the Face of urbanization: Theoretical and Bmpirical Explorations (Int Union of Family Organization, New Delhi, Dec 2-5, 1985, pp 1-24) R Pandev Student activism in British India (Journal of Higher Nos 1 Education, Vol 11, and 2, Monsoon - ~utumn, 1985-86, pp 143-153) R Pandey Sanskritik samrajyavad: Tisari duniyan ke nirdhanata ka sabal karak (Bharatiya Samajvigyan Sameeksha, Vol 16-17, pp 75-90, included as a chapter in SK Srivastava and KD Dwivedi, eels, Bharatiya Samaj Aur Snskriti, Varanasi, Vishwavidyalaya Prakashan, 1985) R Pandey

Vikas ke samajik-arthik ayam (Samaj Vivechan, Vol 2, 1984-85, pp 9-100) R Pandey The actiology of suicide in India tooay (Indi.an Journal of Social Work, Vol 45, No 4, '1985, abstracted in Sociological Abstracts, Vol 8, No 1, 1986, SOPAA - Eocial Planning and Policy DevelqJment, Int Sociological Assoc, San Diego, USA) R Pandev Long range communication' policy: A social cybernetic Analysis (Proc oE the National Seminar on National GOals & Mass Media Communication, New Delhi, 1985) P N Rastogi Policy analysis Eor rural poverty - An oE empirical study, Guru Nanak Journal Sociology, Vol 6, No I. 1985, pp 83-100) P N Rastogi Reconstruction OE social systems in Human Values and Education, Ed SP' Ruhela (Sterling Publishers, New Delhi, 1986, pp 179-213) P N Rastogi Development oE the rural poor: The mlsslng Eactor, (IFDA Dossier, Nyon, Switzerland, No 51, January/ February 1986, pp 3-16) P N Rastog et al i Social structure and Eamily planning oE two tribal villages (The Journal oE Family welEare, September 1985, 32, 1, pp 50-58) A K Sharma and S Naik Social action through law: Partnership Eor social justice (Review Projector, Oct 1985, 5: 9 & 10, pp 68-72 - Review Article) A K Sharma 11.78

Hindu way of life (Ths E3stern Anthropologist, June 1386) K N Sharma Changing forms of E3st Indian marriage and family in the Carribean (Journal of Sociological Studies, Vol 5, June 1986) K N Sharma W\THEMATICS गणित विमाग On Non-linear Vol tE~r ra Integra 1 Equa tions wi th Severa 1 Kernels (J Math Phys Sci 1985, 19 No 3) V Raghavendra On the order of an analytic function represented by Dir.ichlet series (J Math Ana Appl 1985, 105, 136-40) O P Juneja and G S Srivastava' A unified approch to the study of certain growth estimates of entire functions (Annali di Matem, IV, 1985, 89, 1-14) O P Juneja and G S Srivastava On the growth of a class of plurisubharmonic functions (Complex Variables 1985, 5, 1-15) O P Juneja and A Sinha On Banach algebra of analytic functions (Glasnik Matem 1985, 20, 40, 51-59) $\mathbf{0}$ P Juneja and P D Srivastava Mermorphic univalent functions with positive coefficients (Bull Austral Math Soc 1985, 32, 161-176) O P Juneja, M L Mogra and T R Reddy Bounds for the mean of second largest order statistic in large samples (Math operation3-forschung und Stats series, Statistics 1985, 16, 457-464) P C Joshi and N Balakrishnan

Tests for two outliers in a linear model (Biometrika; 1986, 73, 236-239) P C JosQi and S Lalitha Triangle contractive maps and their fixtures in normed linear spaces (Ind J Pore Appl Maths 1985, 16, 9, 1028-1039) O P Kapoor and S B Mathur laminar Analytical study of nonboundary layers with uniform crain stream Non- velocity and wall temperature (J equil ib-Thermooynaics 1985, 10, 287-304) Punyatma Singh and S A Raj Estimation theory o selective reporting The Best 1-of-k Report (SIAM J Appl Maths, 1986, 46, No 3) I O" Ohariyal and E J Oudewicz Tomographic reconstruction using radial polynomials (Am Nuc Soc Trans, 1986, 52) I O Ohariyal, R K S Rathore, P Munshi and M O Sesadri Reconstruction algorithms for Fan-Beam geometry (Proc VI Nat Symp Radiation Physics, Kalpakkam, 1986, C-34) I O Ohariyal, P Munshi 'R K S Rathore and S T Swamy The character is t ic number of two sirml taneous Pell ~s equations and its applications (Simon Stellin, A Quarterly ${f J}$ Pure and Appl Maths, 1985, 59, 205-214) S P Mohanty and A M S Racraswamy A note on isomorphic generalised prisms (Annals of discrete Mathematics, 1985, 27, 209-214) S P Mohanty and Caljit Rao. Comparison of the inverse estimator with classical estimator subject to a preliminary test in linear caliberation (J Stat Planning and Inference, 1985, 12, 93-102) G K Shukla and P Oatta

Prediction under uncertanity oE degree of polynomial Τn growth curve models (Comm in Statistics Theory and Methods 1986, 15, 5, 1653-1664) G K Shukla Experimental designs and their efficiencies for sp~tially correlated observations in t~o dimensions (Comm Statistics - Theory and ~~thods, 1985, 14, 9, 2181-2]98) G K Shukl~ and P S Gill Efficiency of nearnest neighbour balanced block designs for correlated observations (Biometrika, 1985, 72,3, 539-544) G K Shuk 1::1 Symmetric sequence spaces, bases and applications (J Math Ana Appl, 1986, 113, 210-229) Manjul Gupta, P K Kamthan and W H Ruckle Uncondi t ional bases and the order structure (Period ica Ma th Aungarica, 1986, 17, 26-38) M Gupta and P K Kamthan A lemma on Schauder bases and its applications (Note di Matematica, 1985, 5, 83-89) P K Kamthan and M Gupta d, P-duals and holmorphic (nuclear) mappIngs (Collectanea Math, 1986, 36) M Gupta, P K Kamthan and G Dehri ~-convergence and Schauder decomposition (Modern Analysis and its Applications, 1986, 65-77) Manjul Gupta Steady Self-superposable Flows of the type curl $\sim = \sim \sim$ (Acta Ciencia Indica 1985, XI, 169-175) B L Bhatia

ViscOus Flow through per~gble· tube of varving cross-s~ction with reference to proximal renal tubule (Physiological Fluid Dynamics I, 113-118) , Peeyush Chandra and.G Radhakr ishnaqacharya ż Lubrication of porous rollers with power usinq Joints law fluids sl ip. cd terion wi th reference . ~o Synovial (Physiological Fluid Dynamics, I, .167-173) Peeyush Chandra, A Raj and Prawal Sinha Ef Eects of :peripherc, il layer 'consistenCy of . blood flow in' Arteries with non~uniform·· cross-section and multiple stenosis (Physiological Fluid Dynamics I) Peeyush Chandra, S Mukherjee, Rajeev Sharma, ·G.~adhakr~shn~macharya and J B Shukla Maximum-Entropy Principle and Flexible Manufacturing Systems (Def Science Journal 35, 1, 11-18, 1985) ${f J}$ N Kapur, Virod Kumar and O Hawaleshka One some upper bounds for the probability of error (Indian -Journal of Pure and Applied Mathematics Vol 16 No.11, 1227-1231, 1986) J N Kapur Expected Production Function and Mean Queue Lengths (Indian Journal ot Technology 24, 2, 47-52, 1986) J N Kapur, **a** Hawaleshka and Vinod Kumar Normal ised Measun~s of Entropy (Int Journa 1 of General Systems 12, 55-69, 1986) J N Kapur, Vinod Kumar and Uma Kumar Two generalisations of Fisher's Information Matrix (National Academy Science Letters 8,8, 249-251, 1985) J N Kapur On .Measures of Information: Critique of a Critique (Adv Manag Studies 4, 2,3,4, 79-98, 1985) J N Kapur

On the Concept of Useful Information (Journ Org Behav Stat 2, 3,4, 147-162, 1985) J N Kapur Renyi's Entropic Model for Branch Purchase Behaviour (Journ Inf Opt Sci 6~ 3, ~~33-242) J N Kapur, C R Elector and U Kumar Entropic Measures of Economic Inequality (Ind Journ Pure App Maths 17 - 3, ~173-289, 1985) J N Kapur Statistical D2composition due to a number of factors and Interctions among them (Ind Journ Pure App Maths 16, 12, 1407-1419, 1985) J N Kapur On the range of validity of Sharma and Taneja's measure of entropy (Gujarat Statistical Review 13-1, 33-40, April 1986) J N Kapur Stability of a Golden Ellipse (Maths Teacher - India 213-4, 1-6, 1985) J N Kapur Four families of measures of entropy (Ind Journ Pure App Maths 17-4, 429-447, 1986) J N Kapur New Qualitative Quantitative Measures of Information (Mat Acad Sci Letters 9-2, 151-154, 1986) J N Kapur On Entropic Measures of Stochastic Dependence (Ind Journ Pure App Maths 17-5, 581-593, 1985) ${\bf J}$ N Kapur and M Dhande

A New Derivation of Product-Form Probability Eor Distributions Queuing Networks (Management and Systems 1985) 1-3, 109-119, J N Kapur and Vinod Kumar Optimizing in Harvesting of G.:-owing Animal Populations (Acta Ciencia Indica 11m-II, 65-78, 1985) J N Kapur On the Stabil ity Analysis of a Population Model with time lags (Acta Ciencia Indica Ilm-2, 132-137, 1985) JN Kapur The Robustness of Maximum Entropy. and Minimum Discrimination Information Distributions (Aligarh Journal of Statistics 5,. 72-77, 1985) J N Kapur Normalised Measures of useful Information (Ops Res ASAC 7, 1986) J N Kapur Some Thoughts on ScientiE ic and Philosophical Foundations of Maximum Entropy Principle (Bull Ma th Ass Ind 17, 15-40, 1985) J N Kapur The Role of Information-Theoretic Concepts inBusiness Sciences (Bull Math Ass Ind 17, 1-4, 41-52) J N Kapur The Role of Inforrr~tion-Theoretic Concepts on Applications (Bull Math Ass Ind 17, 1-4, 53-62) J N Kapur Generalised Ellipses, Ellipsoids and Hyperllipsoids (Math Education) J N Kapur

Radicals in 1.0. near rlngs (Indian J Pure and App1 Maths) M C Bhandari Emperical Bayes Estimators of Normal Covariance Matrix (Sankhya, Series A - 1985, 47, 247-254) D Sharma and K Krishnamoorthy An Identify Concerning a Wishart Matrix (Metrika 1985) D Sharma and K Krishnamoorthy Simultaneous Estimation of ~~ Eor Poisson Distributions (Math Operations Eorsch, U Statist, Ser Statist, 1986) D Sharma and Vishnukant यान्त्रिक अभियन्त्रण विसाग MECHANICAL ENGINEERING Veloci ty Dependent Inertial Induction and the Secular Retardation OE the Earth's Rotation (Pramana - Jr Vol Physics, 26, No 1, January 1986) A Ghosh Industrial Robotics (Jr of the Institution of Engineers India, Vol 66, Part PE-1, July 1985) A Ghosh A Simplified Two-Fluid r-bdel for Digital Simulation of Operation Transients of a Steam Generator (Annals of Nuclear Energy, Vol No.7, pp 349-355) R Bhatnagar, P Munshi and K Sriram Steam Generator Transient Analysis (Annals of Nuclear Energy, Vol 12, No 3, pp 155-157). K Sriram Vibration Analysis of Orthogonal Cable Networks by Transfer Matrix Method (Jr of Scund and Vibration, 101-4, 1985, pp 575-584) B L Dhoopar, P C Gupta and B P Singh Plane Stress Analysis of a Cylindrically Orthotropic Ring Under Diametrul Compression (Composite Structures, S, 1986, pp 51-59) P K Sinha and B L Dhoopar 11 85

Estimation Procedure for Short Fibre An CraCK Length Experimental Evaluation (Polymer 6, No 3, July Ccxnposites Composites, Vol 1985, pp 185-190) ΒD B S Patro and P Kumar Agarw.'.ll, Prediction of Instability' Point During Fracture of Composite Materials (Composites Technology Review, Spring 1985, pp 173-176) B D Agarwal, B S Patro and P Kumar Response of and Sound Radiat'ion from a with layered Cy1 Regular Axial . Stiffners (Journal Vibration, inder of Sound 1985, 103-4, pp 519-531) and E S Reddy and A K Mallik Computation of three-dillEnsional Parabolic Laminar Flows (Computer Methods in Appl Mech and Engg, Vol 53, 1985, pp 207-221) V K Garg Heat Transfer Characteristics for a Plate Fin (J Heat Transfer, Vol 108, 1986, pp 224-226) V K Garg and K Velusamy Algorithms for Interactive Nesting Programs (Proceedings of the International Conference on CAD/CAM/CAE of IFIP-CSI held at Bangalore, June 1985) S G Dhande and S S Prasad Influence of Magnetic Field on High Strain Rate Diffusing wear (Proceedings of the Int Conf on High Productivity Machining, New Orleans, USA, May 1985) M K Muju and A Ghosh Applications of Ferrography 1n Condition Monitoring of an Automative System (Proc of' the National Symposium on Tribology, New Delhi, December 1985) M K Muju and Umesh Muttur Mechanical Benaviour of Jute Fibres and their Composites (Indian Journal of Technology, Vol 24, 1986, pp 28-32) Prashant Kumar

Efficient Use of Human Energy in Bicycles (Science Reporter, December 1985, pp 454-458) Prashant Kumar Shear Angle During Accelerated Cutting Response Surface Approach (Int J Mech Tool Des Res, Vol 26, No 1, 1986, pp 35-50) V K Jain and O K 83ndyopadhyay Investigations into the Effect of Cathode Material on Temperature Distribution During E01 (lnt ~J Prod Res, 1986, Vol ~4, No 2, 439-450) V K Jain and S Murugan . ~c~anical Properties of Co S1 licate Molds/Core\$.. '(J' lnst . • Engrs Prod Engg Div, Vol 6~, Pt PE-2, Nov 1985, pp"57-68) . ., ~',K .Jain and G P Srivastav: Finite' .In-plane of .Rotating Element Method for . . Timoshenko Rings and Sectors 21, 1985,' Vibrations (INJNME, Vol 1521-1533) . Kultar Singh and B P Singh A New"Set of Orthogonal Polynomials for use in Neutron Transport Theory (J Phys A : Math Gen 19, LI, 1986) ~ Sengupt3 Basic Mechanics of Abrasive Jet Machining (J lnst Engrs Prod Eng Div, Vol 66, pp 74-81) A P Verma and G K Lal A New -Technique for Evaluating Wheel Loading (Int J Mach Toois Des Res, Vol 25, pp 33-38, 1~85) "A K Srivastava, K Sriram and G K Lal **...**

METALLURGICAL ENGINEERING

घातूकमी अभि॰ विमाग

Dendrite .spacing in Sn-2pct Bi Alloy with small Ternary International Conference on Additions,. Proceedings of Research: Fundamental and Hill, "Progress in Metallurgical New Delhi, pp 473-480, Applied Aspects, (Tata McGraw 1986) V Bans~l and S J Hruska Study of the Roasting of Pyrite Minerals by Mossbauer Spectroscopy (Phy Stat Solidi, 87, pp 267-271, 1985) A Prasad, R M Singru and A K Biswas Effects of Tannin-Fatty Acid Interactions on Selectivity of Adsorption of Calcite and Fluorite Surfaces (Tans Inst Mining Met, UK, 94, pp C4-ClO, 1985) N K Khosla and A K Biswas Zinc Recovery from Zawar Ancient Siliceous Slag (Hydrometallurgy, 15, pp 267-280, 1986) Rakesh Kumar and A \overline{k} Biswas Thermodynamics of As-S-O Vapor System (Can Met Quart, 24, pp 39-45, E'86) N Chakraborti and D C Lynch Thermodynamic Analysis of the Pb-S-O Vapor System (Z Metallkunde, 76, pp 538-41, 1986) A K De and N Chakraborti -T Conducting Fi lms on Glass-Ceramics by Li ~ PIg'" Exchange and Reduction Treatments (J Mater Sci 4, 8, P 1014, 1985) D Chakravorty and D Roy Thermal! y Generated Darkening of Oxide Gl asses, (Phys Chern Glasses 26, 5, P 171, 1985) A Sen, J Kumar and D Chakravorty Preparation of Glass - Metal Microcomposites by Sol-Gel Route (J Mater Sci Lett, 5, p 89, 1986) 5 Datta, S 5 Mitra, D Chakravorty 5 Ram and D Bahadur 11.88

Efficient Use of Human Energy in Bicycles (Science Reporter, December 1985, pp 454-458) Prashant Kumar Shear Angle During Accelerated Cutting Response Surfa~e Shear Angle During Accelerated CuttingResponse SurtaApproach (lnt J Mech 'Tool Des Res, Vol26, No 1, 1986, pp 35-50) V K Jain and O K B3ndyopadhyay Investigations into the Effect of Cathode Material on Temperature Distribution During ID1 (lnt J Proo Res, 1986, Vol ~4, No 2, 439-450) V K Jain and S Murugan ~c~anical Properties' of Co S1 licate Molds/Cores'" '(J" lnst' . '. , Engrs Prod Engg Div, Vol 6~, Pt PE-2, Nov 1985, pp"57-68) , ~ "'~ ',K :Ja in and G P Sri vastav . . Finite' Elen-ent Method for .In-plane Vibrations of ,Rotating Timoshenko Rings and Sectors (INJNME, Vol 1521- 21, 1985, 1533), Kul~3rcSingh and B P Singh A New'Set of Orthogonal Polynomials for use in Neutron Transport Theory (J Phys A : Math Gen 19, Ll, 1986) ~ Sengupta Basic Mechanics of Abrasive Jet Machining (J lnst Engrs Prod Eng Div, Vol 66, pp 74-81) A P Verma and G K Lal A New Technique for Evaluating Wheel Loading (Int J Mach Tools Des Res, Vol 25, pp 33-38, 1~85) A K Srjvastava, K Sriram and G K Lal

Development of Glass-Ceramics with Ba-Hexaferrite as Magnetic Phase, Proc XIV Int Congress on Glass, New Delhi (A Special Publ ication of Indian Ceramic Society" Vol I, P 336, 1986) S Ram, D Bahadur and D Chakravorty Combined Reduction and Sintering of Preformed Cuprous Oxide Strip (Materials Science & Technology, 1, рр 743-747, 1985) S Bhargava and R K Dube Hot Rolling of Porous Copper Strip Prepared from Cuprous Oxide Preform (Material Science & Technology, 2, 1986) S Bhargava and R K Dube Properties 'of Copper Oxide Powder (Modern 15, Amer ican POI,t,Jder Strips made directly from Cuprous Developments in Powder Metallurgy Vol 201, 1985) S Bhargava and R K Metallurgy Institute, New Jersey, p Dube Reduction of Ferric Oxide Pellets with Methane, (Trans Iron & Steel Inst Japan, Vol 26, no 3, pp 186-193, 1986) A Ghosh Use of Sterec. '~ic31 Measurements for'the Study of Grain Boundary and Diffusion Controlled Precipitate Kinetics Growth (Met Trans, 16A, p 456, 1985) A M Gokhale Estim~tlon of Nucleation Rate and Growth Rate from Time Dependence of Global Mjc~ostructural Properties During Phase Transformations (MeL Trans, 16A, p 559, 1985) A M Gokhale and R T DeHoff Estimation of Average Size of Convex Particles, (Met Trans, 17A, p 742, 1986) A M Gokhale Estimation of Parabolic Growth Rate from Section Size Distribution (Metallography, 18, p 162, 1985) A M Gokhale

Estimation of Average A Stereological Method for Interfacial Energy Ratio of Gr3in Boundary Precipi t31:es, (Trans 11M, 38, P 309, 1985) A M Gokhale A Critical Assessment of, Abr3sion Resist3nce Test for Synthetic Enamelled Wires, (lEMA Journal, S, p 27, 1985). A L Vadhiya, B H NaraY3na and A M Gokh3le Effect of Ti on the Development of Cube Texture in a 75 Ni -5Cu-0.5Mn-Fe Alloy, (Tr3ns 11M, 38,3, pp 236-240, 1985) V S Verma and K P Gupta A Study of Physical Properties and Development of Cube 'Texture in . a 75Ni -5Cu-O. 5Mn-1Cr-1 Ti Alley, (Trans 11M" ~!3.~.":'.' 5, pp~436~438, 1985) ... ' .{,'::~ ,:;~~V)\$\:.~~rin~i; and., K 'p Gup.ta ...,'.' .. ~<',:'.....,(.:'.....'.J,.'.:.''~'~...:'''~'',:,'~~....''' ^'',.'............. 1, pp 59-61 'The F€:':~r';'T.i""System, (J ~lloy Phase:' 「日本学校 Diagrams, ,,.., . '. 1985). . K P'Gupt?, S B Rajendraprasad, ·A K Jena and R C Sharma The Cr-Ni-W System, (J Alloy Phase Diagrams, 1, pp 47-58, 1985) K P Gupta, S ~ Rajendraprasad A K Jena and R C Sha~ma The Cr-C~-Ni System, (J Alloy Phase Diagrams, 1, pp 39-46, 1985) K P Gupta, S a Rajendraprasad A~'/":: K Jena and R C Sharma Ef.fect of Alloying Addi tions 1n the Stabil ity'- . of ~, ana Precipitates Insolubles in Al-Mn, · Proc Int C6nf'::in,~: . Aluminium 85 (Aluminium Association of India, p 553, 1985) A K Jena

Estimation of Volume E"ract ion of Martensi te in Dua 1 phase Steels, (Progress in Metallurgical Research E"undamentals and Applied Aspects, Tata McGraw Hill, pp 559-565, 1986) H K Khaira and A K Jena Metals and Sapphire Interfacial Phenomena between Molten Substrate, (Metallurgical Transaction s, Vol 16, pp 567-575, 1985) S P Mehrotra and A C O Chaklader Mathematical Modelling of Conventional Copper Converters, Proc o~ Int Conf on Progress 10 Metallurgical Hesearch: E"undamental and Applied Aspects, (Tata McGraw Hill, pp 269-278, 1986) N Ranjan and S P Mehrotra Electronic Interaction in Mn Ni Al Intermetallics and their Hydrides, (J Less Common Metals 118, pp 285-291, 1986) K N Rai, Ratna Rani, V Srikanth and ~ Kumar Role of Rhenium In Pt-Re-Al O Reforming Catalyst, An Integrated Study, (A I Ch E J 31, pp 1997-2007, 1985) A K Nayak, G K Mehta, K N Rai, S Bhatia K Jothimurgeshan and R O Srivastava Alloy with Trace Serraled Yielding -in Al-3 pct. Mg Additions of In, Cd and Sn, (J Material 93, Science Lett, 5, p 1986) C N Rao, T R Ramachandran and G S Murty Precipitation in commercial 3003 Aluminium Alloy, Proc Int ConE Progress in Metallurgical Research: E"undamental and , Applied Aspects, (Tata McGraw Hill, pp 589-597, 1986) E V Mathew, T R Ramachandran and K P Gupta Mossbauer Studies oE Transformations In Metallic Materials, Int ConE Progress in Metaliurgical Research: Fundamental and Applied Aspects, (Tata McGraw Hlll, pp 62]-626, 19n6) R M Singru and T R Ramachandran

11 Ql

Recrystallisation and Precipitation Characteristics of Commercial 3004 Aluminium Alloy, Pree Int Canf on Aluminium -85 New Delhi Aluminium (In Assoc of India, 1985) A Garg, P V K Menon and T R Ramachandran Analysis of Thermally Activated Deformation in HSLA Steel, Proc lnt Conf on HSLA'Steels, Univ of Wollongong, Australia, p 167, 1985) A Majumdar an~ M N Shetty Fast Moving Dislocations in some Anisotropic Face Centered Cubic Crystals, Proc EXprmET'85 In!: Conf on Metallurgical Applications of Shock-wave and High-Strain-Rate Phenomena, (Marcel Dekker, NY, 1986) M N Shetty 1 The Anodic Polarization and Stress Corrosion Cracking of Eutectoid Steel, (Corrosion Science 25, p 449, 1985) Ashok Kumar, Rai Narayan and K P Singh Cathodic Polarization of nand p-type Germanium, (1nt Tech 23, p 433, 1985) Kiran Batra, N G Sharma and K P Sinah Potentiodynamic Study of Chromium-molybdenum Ferritic Steels in Sulphuric acid and Seawater, 3rd Int Symp on Advances iI', Electrochemical Science and Technology, Madras, Dec 9-14, 1984, (Oxford : 10d IBH Publishing Co, New Delhi, 1985) a P Mody, R P Singh and K P Singh Corrosion Behaviour of Sintered 434L Ferritic Stainless Steel-Alumina Composites containing early Transition Metals. (Materials Chemistry and Physics, 12, pp 419-435, 1985) S K Mukherjee and G S Upadhyaya' Sintered Ferritic Stainless Steels, (UNEC ConE of Powder

Metallurgy, Minsk USSR, ~rch 25-29, 1985)

G S Upadhyaya and S K Mukherjee

11.92

Anodic Polarization Study of Sintered 434L Ferritic Stainless Steel and its Particulate Compsoites, (Powder Metallurgy Int 17, p 172, 1985) S K Mukherjee, A Kumar and G S Upadhyaya Effect of Fe P addltions on Corrosion Behaviour of Ferritic Stainless Steel Cc~sites Compacts containing Six Volume Percent Alumina (British Corrosion Journal 20, p 4, 1985) S K Mukherjee and G S Upadhyaya Corrosion Behaviour of Sintered 434L Ferritic Stainless Steel-Alumina Composites conta ining (Corrosion Science P. r 25, p 463, P 1985) S K Mukherjee and G S Upadhyaya Effect of Ni P Additior on Sintered w-Cu-Ni Heavy Alloys (Int J of Refractory and Hard Metals, 14, p 138, 1985) V Srikanth and G S Upadhyaya Effect of Different Ball Mililings on Size Distribution of Tungsten Powder (ibid). A Asthana and G S UpEldhyaya Effect of Binder Composition and Sintering period on the Properties of W-Fe-Ni Heavy Metal Alloys (Proc of 11th Int Plansee Seminar, Vol 2, p 203, 1985) G S UPadhyaya and V Srikanth Iron and Nickel substituted WC-IOCo Hard Metals (ibid) G S Upadhyaya and D Basu Mechanical Behaviour of Sintered Steel- Ferri tic Stainless Alumina Particulate Canposites containing Ternary pp 67-68, additions (Mat Sc and Engg 75, 1985) S K Mukherjee and G S Upadhyaya Sintered 434L Ferritic Stainless Steel (Materials and Design 6, No 6, 1985)

G S Upadhyaya and S K Mukherjee

Oxidation Behaviour of Sintered 434L Ferritic Stainless . Steel-Alumina ~osites with Te~nary Additions (Oxidation '.: 6f M:tals, 23, 3~4, pp 177-189, 1985) '. ". S K Muk~erjee and G S Upadhyaya Sintered AI-based Particulate Composites, Proc lnt Cong on Al ~ '. Nov. 1985 (New Delhi Aluminium Association of India, p . . 281; 1 985.); . . G S Upadhyaya Effect of Milling variables on Powder Character and Sintering Behaviour of 434L Ferritic Stainless Steel Alumiha Composites (Trans of JIM, '26, pp 763-771, 1985) S.R Mukherjee and G S Uadhyaya . ' .. Role of SolidiEicati.on in Powder Metallurgical Processes . (Metals, 1985, Vol 1, no 1, p 29, 1985) G S Upadhyaya Effect of Plume Geometry of Recirculation Flow Rates in a Gas Injected Vessel, Proc of lnt Conf on Progress in Metallurgical Research: Fundamental and Applied Aspects (Tata McGraw Hill, pp 307-315, 1986) 🔨 G G Krishna Murthy, A Ghosh and S P Mehrotra Mixing in Gas Injected Vessel: Some Basic Concepts and Experimental MeasuremE~nts, 5th Int Iron Steel Congress, Iron & Steel Society, US, April 6-9, 1986) G G Krishnamurthy, S P Mehrotra and A Ghosh PHYSICS ~~ Some Unusual classical lumps 1n 1+1 dimensions (Phys Lett 1518, P 413, 1985) A Mukherjee Light Dirac neutrinosin N=l locally supersymmetric SU (5) GUT (Phys Lett 1568, 353, 1985) A S Joshipura, A Mukherjee and U Sarkar

..∼.

Impr~ved Z-dependene of the ground :itate energies of neutral atoms (Proc Indian Acad Sci - Chern Sci, 231, 1986) P-K Chatterj'i, A Mukherjee, M P Oas and B M Deb Embedding of SU(5) GUT in SO(32) Superstring theories (Nucl Phys, -8263, 621, 1986) H S Mani, A Mukherjee, R Ramachandran and A P Balachandran Anamolous magnetic moment of light quarks and dynamical symmetry breakin~ (Phys Rev 031, p 1097, 1983) J P Singh Compton PrEiles Ear Polycrystalline CuNi Alloys (PE Mijnarends Phys Rev 832 7650, 1985) R Prasad, R Benedek, S Manninen, B K Sharma and A Bansil Raman scattering study oE phase transitions ln (NH₃) SCN, (J Chern Phys 82-2, 5624, 1985) G O Tewari, O P Khandelwal and H O Bist Fermi resonance in M(CH⁷COO)2 .4H20 (Mg=Mg,Co,Ni) spectrochum (Acta 41A 391, 1985) G S Raghuvanshi, O P Khandelwal and H O Bist Phase transition in Magnesium and Zinc Fluorotitanate hexahudrate and hexadecterate system observed by Raman scattering (J Ri3mam Spectroscopy 15-3, 149, 19851 H 0 Bist Far IR spectra and barriers to Eor internal rotation benzaldehyde, benzoyl fluoride, and benzoyl chloride 45, acetophenone (J Mol structure 129, 1985) JR Ourig, H O Bist, K Furic, J Qui and T S Little A short range prediction oE the onset-phase oE the southwest monsoon-1979 (Mausam 37, 1986)

Y Ramanathan

On the Planetory Scale charges during monsoon- the surrme 1979 (Mausam, Vol 37, No 4, 1986) r Y Ramana than Realistic supersymmetric .preonie models (Phys R~v D33, 836, 1986) V Gupta, A S Joshipura, H S Mani and R Ramachandran Suersymmetric prcon models with three fermion generations (Pramana 26, 311, 1986) H S Mani, V Gupta and U Sarkar The electronic structure of transition atom impurities in Gap (Phys Rev 831, 3729, 1985) Vijay A Singh and A Zunger Radi a t ion induced el ectron traps in Ga AS 1 - Sb x alloys (J Electron, Mat 14A, 1165, 1985) P A Murawala, Vijay A Singh, S Subramanium, S S Chandavakar and 8 M Arora Thermally stimulated current studies of t.he density of Gap states in amorphous silicon (Solid StatE~ Canm 55, 14"" 1985) D S Misra, Vijay A Singh and S C Agarwal Analysis oE thermally stimulated current in amorphous silicon (Phys Rev 8 32, 4052, 1985) D S Misra, Vijay A Singh and S C Agarwal A Renormalization group study of week disorder in the hubbard hamiltonian (J Phys C, 5731, 1985) G R 8hat and Vijay A Singh Theoretical studies of the electronic states of substitutional transition metal impurities in lnp, (J Phys C 18, 6177, 1985)

P K Khowash, D C Khan, and Vijay A Singh

Phenomenological approach to the electronic structure of glassy transition metal alloys (Phys Rev B, 32, 8384, 1985) A K Banerjee, Vijay A Singh and A K Mazumdar Inversion of chalcogen defect level s in si li con: an MNOO study (Physics Lett 112A, 175, 1985) Raj K Singh, S N Sahu, Vijay A Singh and J W Corbett Electronic structure of transition metal impurities in III-V semiconductor (Indian J Phys 59A, 451, 1985) P K Khowash, Vijay A Singh and O C Khan Neutron scattering in disordered alloys: Coherent an Incoherent intensities (Phys Rev B, 1986) d A Mookherjee and M Yussouff ceptibility and electrical in ac-sus resistivity Feco-XNix Cr20(21x30) alloys (Phys Rev B31, 7458, 1985) S B Roy, A K Majumdar, N C Misra, A K Raychaudhury and R Srinivasan Residual resistivity in Ni-Fe-Cr/V alloys and the two-current nndel (Pramana, J Phys 26, '73, 1986) A K Gangopadhyay and A K Majumdar Long-range ferromagnetic order in AU82Fe18 alloy, (Mag Mat~r, 59, 153, 1986) - S B Roy, A K Gangopadhyay and A K Majumdar Linear magnetostrictionin polycrystalline Ni-Fe-Cr- and Ni-Fe-V alloys (J M3g Mag Mater, 59 57, 1986) ,A K Majumdar and R 0 Greenough Phase transition to long-range ferromagnetism in AU82Fe18 and the associated critical exponents (Physics Rev B33, 5010, 1986) A K Gangopadhyay, S B Roy and A K Majumdar

A program to calculate magnetic form factor for transitlon metal systems: (Computer Physics Communication, ~6, 373, 1985) D C Khan, L A Barnes, G S Chandler and S N Figgis Magnetic, Mossbauer an9 electrical properties of Tisubstituted Ni 0.3 Zn 0.7 Fe204 : (Bulletin of Materials Science, 7, 253-270, 1985) D C Khan and M Misra Electronic structure of alkali metal impurities In InP: (Solid State Communications, 58, 185, 1980) D C Khan and P K Khowash $\stackrel{\cdot}{\text{Q}}$ ~upo e Interact10n at FE 1n Tltanlum meta Hyper lne f. Interactions, 28, 1001, 1986) D C Khan and N V Nair Supression of Elastic Magnetic Electron Scattering form Factors (Physical Review C32, 643, 1985). S K Sharma and B Ghosh Proton-neutron Occupancies of Spherical Shells Ground in the States of some Dobly Even 2p-lf shell (Physical Nuclei Review C33, 1258, 1986) S K Sharma and G Mukherjee 51 V (Physical Review C33, Elastic Magnetic Scattering on 1258, 1986) S K Sharma and B Ghosh Crystal Field Analysis of Pbr-b04- Pr (Phys Rev B, 1, 32, 2841,1985) B P Singh and K K Sharma r-bssbauer spectroscopic studies of Y3-x Gd_x Fe5 0'2 (x = 0, 0.5 and 3.0) prepared by an amorphous citrate process (J Material Sci 21, 669, 1986) D Bahadur, Virendra Kumar and R M Singru

Amorphous-to-crystalline transformation in vttriumsubstituted GdIG (Adv in Ceramics, 1985) D Bahadur, D Roy, R Bhatnagar, V Kumar and R M Singr'J Electron Momentum Distribution in Pd and. Fdl1 (Phys Rev B31, 6415, 1985) Anjali H3rm3lkar, D G Kanhere and R M Singru Fositron Annihilation (Proceedinas oE 7th Jnt ConE on Positron Annihilation, New Delhi, India, 1~BS, World Scientific Singapore, 1985) 'P C-J:lin, R M Singru :lnd ~'F Gopinath:ln .!Editor3) संगणक विज्ञान तथा अमियंत्रण CCJv1PlJrER SCIENCE AND ENGINEERING Expert Syst2m (Communi2ation o((51) R Sana]] Parallel Alaorithms for Shortest Paths (IEE & Froc Computers Digital Techniques, Vol 1.33, Part-E, No 2, R p 87) K Ghosh and G P Bhattacharjee Parallel Algorithms for Connectivity Problems in Graph Theory (Int Journal of Computer Maths, Vol 18, No 3+4, p 193) R K Ghosh .MATERIALS SCIENCE धात विज्ञान Determination of Silicon-Silicon Dioxide Interface State

Determination of Silicon-Silicon Dioxide Interface State Properties fran Admi ttance Measurements under Illumina tion (Journal of Applied Physics 58, 425~:42~6, 1985) S Kar and S Varma

Dependence' of Si-SiO Interface State Density on Oxide Thickness in Structure with Ultrathin (79-227) (Applied Oxide Physics Letters 47, 1203-1205, 1985) S Kar, D Shanker and K S Chari

Characteristics of Silicon-oxide Interface State in . submicron structures (Journal of Applied Physics, 59, 1986) S· Kar and R L Narasiatlan An Investigation of Optically-activated Si-SiO Interface . States in Metal-oxide-silicon, structures (IEEE Transactions , on ·Electron DevicesED-33, 1986) S Kar and Manju Tewari Nature of defects Induced by Electron Beam Evaporation and' their Interaction with IllumiQation (Emerging Semiconductor Te.chnology, STP 960, OC Gupta ,and ,PH Langer, Eds, American Society for Testing and Materials, ' 1986) S~Kar and Ma~ju Tewari Role of Rhenium in, Pt-Re-A1 O. Reforming Catalyst (-AICH E J 31, 1994, .1985) K Jyotimurgeshan, A K Nayak, G K Bhatia, K N Rai, S Bhatia and R D Srivastava Estimation of Enthalpy of Hydride Formation (Proc 6th World Hydrogen Energy Conference', July 20-24, 1986, Vienna, Austria) . Jitendra .Kumar, A Verma, S Gupta and K N Rai Optical Properties of Bismuth Germanate Glasses containing Zinc'O~ide (J'Materials Science Letters, 1985 - accepted) A Sen, D Chakravorty and J Kumar A Lost Cost Reactor for . Desorption Kinetics of the Study of Absorption-(Presented at the National Hydrogen 'Storage Materials Nagpur August 1985) V C Symp on Instrumentation 10, Srivastava, S Gupta,. Jitendra Kumar & K N Rai Some Na SC -Based, .Fast Ion Conductors (Solid State lonics Vol 18, 544, 1986), K Shahi andd'Prakash

Defects and the First Order Phase Transition Status Solidi- a Jan/Feb 1986 - appeared) K Shahi, W weppner and A Rabenau Control System, for Optical Fibre Drawing (J India, 15, 180-177, 1985) A C Joshi, S Gupta and K S Gandhi Preparation or Pr~?erties of iron-boron me Ribbons Belt Sppn in Air (Bull MatI Science, 1985) D C Agrawal and E A Chakachery Effect 'of Iron Content in Nickel Based , Me Erazing Foils on the Properties of Joints Stainless Steel (Transactions of the Indian Metals - accepted) D C Agrawal and S Chaklanobis Effect of Process Parameters on Melt Spun Using Slotted Nozzles 1986} S Chaklanobis and D C Agrawal नागिकीय इम्ब NUCLEAR ENGINEERING AND TECHNOLOGY i find it 1\ Simplified MJdel for the Digital EStearngeneration Transients (Annals of Nuclear 7, pp 349-356, 1985) R Bhatnagar, P Munshi and K S Ram Digital Tomography in Twc Application of studies, (Nuclear Instruments and Methods, \ 571-579) M D Seshadri, P Munshi, I D Dhariyal and R

Defects and the First Order Phase Transition in Ag I (Phys Status Solidi- a Jan/Feb 1986 - appeared) K Shahi, W weppner and A Rabenau Control System, for Optical Fibre Drawing (J Instrum SOC' India, 15, 180-177, 1985) A C Joshi, S Gupta and K S Gandhi Preparation ot Pr~?erties of iron-boron metallic Glass Ribbons Belt Sp~n in Air (Bull MatI Science, 8-2, 137-148, 1985) D C Agrawal and E A Chakachery Effect 'of Iron Content in Nickel Based , Metallic Glass Erazing Foils on the Properties of Joints' in an 18-8 Stainless Steel (Transactions of the Indian Institute of Metals - accepted) D C Agrawal and S Chaklanobis Effect of Process Parameters on the Dimensions of Ribbons Melt Spun Using Slotted Nozzles (J'Mat ScLetts, 5, 10, 1986), S Chaklanobis and D C Agrawal ;nf1fm lI~lIft~" PI 1l'Imtia1it NUCLEAR ENGINEERING AND TECHNOLOGY A Simplified r-bdel for the Digital Simulation of Steam-generation Transients (Annals of Nuclear Energy, Vol 7, pp 349-356, 1985) R Bhatnagar, P Munshi and K S Ram Application of studies, (Nuclear Digital Tomography in Two-phase flow 571-579) Instruments and Methods, Vol A 251, pp M O Seshadri, P Munshi, I D Rathore Dhariyal and R K S A comparative study of U-V-E-T and U-V-U-T models for the transient analysis of Steam-Generators (Proc; VIII National Heat Mass Transfer Conference December 1985, Visakhapatnam, pp 417 - 426) P Munshi, K S Ram, R Bhatnagar, D V Rao

Dynamic Bias in Two-phase Flow (Proc'VI National ·Synt:JoSilD on Radiation Physics, Kalpak~am, 1986, paper C-39) C S Sinha, P Munshi and K S Ram Reconstructio~ Algori~hms for Fan~Beam Geometry (Proc VI National Symposium on Radiation Physics, Kalpakkam, March 1986, paper C-3S) S T Swarny, P Munshi, I O Dhariyal and R K S Rathore Tomographic Reconstruction using Radial Polynomials, (Trans American Nuclear Society, June 1986, Vol 52, pp 407-409) R K S Rathore, I O Dhariyal, P Munshi and M O Seshadri Steam-Generatcc Simulation with 'Non-Equilibrium Two-Phase Flow Models (Annals of Nuclear Energy 1986 - in Press) P Munshi, K S Ram, M S Kalra and O V Rao Torrogri=lphic Reconstruction of the Density Distributioo using' Directo.r Fan-Beam Algorithms (Nuclear lnst. and Methods A - in review) .p Munshi, R K S Rathore, S T Swarny and I 0 Dhariyal Tomographic Reconstruction of the Density Field using Radial olynomials (Nuclear' Technology - in review) R K S Rathore, P Munshi, I O Dhariyal and S T Swamy Fourier Counting of Multiple Species M S Kalra A New set of Orthogonal Polynomials for use in Neutron Transport Theory (J Phys A, Math Gen 19, Ll, 1986) A Sengupta On a Discretised Spectral Approximation in Neutron Transport Theory I (To appear in Nucl Sci Engng) A Sengupta and C K Venkatesan

On the definition of '£ .. in theory of a Discretised 'Spectral Approximation (To ap-pear in Nucl Sci 8ngng) A Sengupta On the Approximate Solution of a Class of Singular Integral Equations (submitted to J Math Anal Appl) A Sengupta On a Discretised Spectral Approximation in Neutron Transport Theory II - Numerical Results (To be. submitted N\lcl Sci 8ogng) to R Venugopal and A Sengupta Same' Recent Advances in Neutron Transport Theory I & II (Invited Lectures at Seminar on TransPort Processes, OCtober 7-11, 1985, North Bengal University, Darjeeling) A Sengupta

Books

```
~AERONAUTICAL ENGINEERING
    Structural Stabil i ty of Col umns and Plates (P,f fil iated
   Fast west PressPvt Ltd., New Delhi, 1986)
       N G R Iyengar
    CIVIL ENGINEERING
 'FIQt.II in Open Channels. 1st Revised Edition (Tata McGraw
    Hill Publishing Co, New Delhi - 1986)
       K Subramanya
 , / Stability Theory of Structures (Tata McGraw Hill Publishing
    Co, New Delhi - 19E:5)
       Ashwini Kumar
    ELECTRICAL ENGINEERING
 • /
    Extra High Voltage A C Transmission Engineering (Wiley
    Eastern, 1986)
       Rakosh Das 8egamudre
\/'HUMANITIES AND SOCIAL SCIENCES
    Indus~rial Econexnics (1st Reprint - Wiley Eastern Ltd., New
    Delhi, 1986)
       R R 8arthwal
"-/Political Authority (Y K Publishers, Agra, 1986) S
       N Mahajan
  \~ociology of' Development: Concepts, Theories and Issues
    (Mittal Publishers, Delhi, 1985)
        R Pandey
```

Sponsored Projects q)f"CI qf~li~;r~ni

AERONAUTICAL KBGIUEltIRG ~T~ 3tfftp~ ftnn'1'

Completed जो पूर्ण की गई

Development of Parameter Identification. Techniques to Extract Aircraft Parameters from Flight Data (ARDB) S.C. Raipinghani

In Progress iitT Sr~ en: .~

Calibration of Trisonic Wind Tunnel (ARDB) Vijay Gupta

Low Speed Wind Tunnel '(ARDB) A.K. Gupta, M. Krishnamurthy, Vij ay Gupta, N.G.R. Iyengar

CHEMICAL ENGINEERING ~Tlff;:r~ 31'f+f~vr ftfffTtT

Completed _____ifT ~ CfiTq.~ _____...

Hydrodynamics, Mixing and Mass Transfer in Turbulent Bed Contactor (CSIR) D.P. Rao

<u>In Progress</u> जो प्रगति पर है

Inter and Intra Molecular Energy Transfer (DST)
 Y.V.C. Rao

Study .of Vibrational Re--laxation Times in CH_4 -0₂, S02-o2' C₂H₆O2 Mixtures (CSIR) Y.V.C. Rao

Study of Coke Formation During Naphtha Pyrolysis (DST) D. Kunzru, S. Bhatia

Pass-!ve Drinking Water Cooler - (TERI) D.P. Rao

CHEMISTRY ~mq;:r Compreted fCf~TtT <u>~Gf</u>) 'toT <fiTq~ Alkali Metal Induced Generation of Radical Anion and Dianion Intermediates and Their · Role in Organic Transformatio~s (DST) M.V. George Evolution of Earth s Atmosphere (DST) P.S. Goel Studies in Pure Nuclear Quadrupole Double Resonance Spectroscopy (DAE) P.T. Narasimhan Study of Reactive and Nonreactive Collisions (D~T) N. Sathyamurthy In Progress gr) $nr \sim -1$ Studies Directed Toward the Synthesis of Cyclopentanoid Natural Products (DST) S. Chandrasekaran Studies in Insect Sex Phe~omones (Ministry' of Defence) S. Chandrasekaran Proton Transfer Reactions in the Excited States (DST) S.K. Dogra Photochemical Investigations of Selected Organic Compounds-Mechanistic Aspects and Ap.plications (DST) M.V. George Chemical Reactions in Gaseous Plasmas (DST) P.K. Ghosh Pre-solar Grains in Meteorites (ISRO) P.S. Goel Trace Determination of Environmental Pollutants by Fast Kinetic Methods (DOE) P.C. Nigam Development of ~R Imaging Spectrometer and Imaging Techrtiques for Applications to Studies of MulticQaponent Biosystems (DST) P. Raghanathan 11.132

Selective Peptide For.ation in Captive Environments (DST) S. Ranganathan The Preparation of Novel Immobilized Catalysts for Olefin Metathesis (HLRF) S. Rangana than Certain Aspects of Moleeular Reaction Dynamics (DST) N. Sathyamurthy Organopalladium Chemistry in Organic Synthesis: Development/of New Synthetic Methods and Total ~ynthesis of Natural Products (DST) Y.D. Vankar Iomophores and Metal Toxication in Biological Systems (INSA) S.S. Katiyar CIVIL ENGINEERING mfifw an1fIt'''01 fif1R1T Completed arT ~ui 'fiT ~ ~ Simulation of Traffic on Narrow Roads (CRRI) S.P. Palaniswamy Study of Effect of Road Width on Traffic F~ow on Narrow Roads (CRRI) S.P. Palaniswamy Water Table Determination using Remote Sensed Data (Department of Space, Government of India) K.K. Rampal जो प्रगति में हैं. In Progress Optimal Design of Anaerobic Diges~~on to Maximize Biogas Production (CSIR) C. Venkobachar Transportation Modelling on Regional Basis 'for the Trunk Route Highway System (MOST, Government of India) S.P. Palaniswamy M!c~obial Utilization of Fertilizer Waste (CSIR) A.V.S. Prabhakar. Rao

Text-Book on "Remote Sensing" (UGC) K.K. Rampal Text Book on "Mapping and Compilation" • (QIP) K.K. Rampal c<lfputer science and engineering W~m-A ~ 3lfifQ';~ In Progress \III Sftrfu' '-n: § Unix Kernel Development (Uptron, Lucknow) •G. Barua Computer Literacy and Studies in Schools (DOE, NCERT) Om Vikas ELECTRICAL ENGINEERING AND ACES In Progress ~) Smfa q"{ Clutter Measurement and Modelling (DOE) P.R.K. Rao System Design and Studies of Fibre Optic Digital Com~unication System s (DRDO) P.R.K. Rao Transform and Iterative Techniques in Digital Image Processing (DRDO) S.K. Mullick Investigation of Trans~arent Conductors for Application in Electron1~ Devices (NSF, USA) . S. Kar Integrated Devanagar~ Computer (DOE) R.M.K. Sinha, S.K. Mullick Characterization and Mod-elling of Heavy Doping Effects in Silicon Devices (DST) M.S. tyagi, Jitendra Kumar Effect of Acute and Chronic Microwave Radiation on Immunological Systems (DOE) R. Sharan

HUMANITIES AND SOCIAL SCIENCES मानवकी तथा सामाजिक विज्ञान विमाग

<u>Complete</u> d जो पूर्ण की गई

Study on 'Financing of Dairy Animals and Bullock/Bullock Carts under IRDP in U.P. (NABARD, Bombay) B. Rath

A Review Report on the Correspondence Course of the P~st-Graduate Diploma Course in Phonetics and Spoken English of the Central Institute of English and Foreign Languages (CIEFL, Hyderabad)

P.P. Sah

A Review Report on tl\e Correspondence Course of the Post:,graduate Certificate Course in Phonetics and Spoken English of the Central Institute of English and Foreign Languages (CIEFL, Hyderabad)

P.P. Sah

Explanation, Pr~diction, Monitorin\$ and Control of Ethnic Tensions in Indian Society (ICSSR, New Delhi) P.N. Rastogi

In Progress जो प्रगति में हैं

Economic Efficiency of the Internal Organizations of a Firm (ICSSR, New Delhi) T.V.S. Ramamohana Rao

Transportation Planning for Trunk Route System T.V.S. Ramamohana Rao, S.P. Palaniswamy

Bench Mark Survey for Estimation of the Indirect Secondary Flood Control Benefits of RMP Orissa (CSIR, New Delhi) B. Rath

A Comparative Study of Work Constructs and Identity in Young Adults in England, France and 'India (Maison des Sainces de & 11Hornie, Paris) Usha Kumar

Helping Behaviour and Reactions to Aid in Indian Society (ICSSR, New Delhi) L. Krishnan, N.K. Sharma, A.K. Sinha Development of Weaker Sections - Problems, Politics and Issues (ICSSR) Om Prakash Power Strategies and Leadership Styles in Indian Organizations (ICSSR, New Delhi) M.A. Ansari A Psycho-Social and Educational Problems of the Socially Disadvantaged Students Studying in IITs (ICSSR, New Delhi) Omprakash, P.N" Rastogi MATHEMATICS गणित विभाग जो प्रगति में हैं In

Progress

- Air Pollution (CSIR) J.B. Shukla
- Peristalsis in Physiological Systems (CSIR) Punyatma Singh
- Text Book on "Applied Mathematical Modelling" (QIP) J.B. Shukla

MECHANICAL ENGINEERING

In जो प्रयुद्धि में हैं

Progress

CAD of Mechanisms (DST) A. Ghosh, S.G. Dhande, K. Sriram

Numerical Solutions for Viscous Flow Past Arbitrary 2-D Bodies using Body Fitted Coordinate Systems (ARDB) V.K~ Garg

Investigations into Accelerated Cutting for Machinability Evaluation (CSIR) V.K. Jain

Group Technology Application in Mechanism Synthesis and Selection (DST) A. Ghosh, S.G. Dhande, K. Shankar

Fracture ~oughness of Fibre-Composites using J-Integral Approach (ARDB) B.D. Agarwal, P. Kumar, B.P. Singh

J1.136

Design and Development of Solar Water Heating Systems for Indian Conditions (FGP Ltd., Bombay) H.C. Agarwal Design and Development of Solar Cookers (FGP Ltd., Bombay) HoC. Agarwal Experimental Investigation to Constitutive Relations and Roughness of FRP at High Rate of Loading (ARDB) P. Kumar, B.P. Agarwal घातुकर्मी अभियन्त्रण विमाग METALLURGICAL ENGINEERING जो पूर्ण की गई Completed Preliminary Evaluation of Mass Transfer vis-a-vis Interfacial Reaction Control for Carbothermic Reduction of Iron Oxide (CSIR) A. Ghosh, S. Kumar In Progress iifT srqfu 'R § LoW Cost Steel (Ministry of Overseas De~elopment, UK) R.K. uube Evaluation and Investigation.of Ni Base Ternary Phase Diagrams (ARDB) K.P. Gupta, A.K. Jena, R.C. Sharma Cement from Ash by a Low Temperature Route (Tata R & D Centre) P.C. Kapur Water Filter from Rice Husk Ash (Tata Rand D Centre) P.C. Kapur Cementing of Tobacco Leaves by TiB Rice Husk Burner (Tata R & D Centre) P.C. Kapur Optimisation of Grinding Circuit~ (Grind Well Norton) P.C. Kapur Cordierite Refractories (Grind Well Norton) P.C. Ka-pur

Development-of Materials for Isotopes Separation of H_2 and D_2 (DST) K.N. Rai, J~tendra Kumar, Sanjay Gupta Oxidation ~nd Mechanical Behaviour of Chrome-Mo-Ferritic Steel at High Temperature and Pressure in Air and Oxygen (DAE) K.P. Singh Corrosion and Fatique Behaviour of Prestressing Steel Wires (Hindustan . Wires Ltd., Kanpur) Raj Narayan Development of Simulation Model for Predicting Floatation Recovery/Grade of Cholcopyrite using Laboratory Data (ElL) S.P. Mehrotra PHYSICS : ft~ R; ntf In Progress \lfT STtTfa iT **t** Preparation and Characterization of Magnetic Bubble Materials (DRDO) D.C. Khan Fabricatio~ of Argon Ion Laser (DST) G.N. Rao, G. Chakrapani Cooperative Monsoon Research Programme (USAIO) Gyan Mohan, V.K. Deshpande, Y. Ramanathan Numerical Weather Prediction Related to Monsoon (NSF, USA) Gyan Mohan, V.K. Deshpande, Y. Ramanathan Cumulus Convection Parametrization (Indo-US Cooperative Programme) GyanMohan Orography and Moso-scalo Convection (Indo US Cooperative Programme) Gyan Mohan Text Book on · "Introduction to Modern Optics" (UGC) A.S. Parasflis Text Book on "Symmetries, Gauge, Fields and Fundamental Interactions" (UGC) Tulsi Dass

Development and Theoretical Study of Plasma Recombination Laser (DST) R.K. Thareja Nuclear Fission Studies (DAE) Y.R. Waghware, G.K. Mehta Studies on Excimer/Exciplex Laser Down Conversion by Raman Mixing (DST) S.C. Agarwal Phase Transition in Solids using Laser Raman and IR Spectroscopy (CS IR) H.D. Bist Use of Ion Beftms in Environmental and other Fields (DST) G.K. Mehta, Y.R. Waghmare INDUSTRIAL AND MANAGEMENT ENGINEERING औद्योगिक तथा प्रवन्ध अभियन्त्रण In Progress ~T ~CTit ~ Technical Manpower Information Centre (Ministry of Education) J.L. Batra, B. Rath MATERIALS SCIENCE षात विज्ञान जो प्रगति में हैं In Progre, ss Development of Glass Fibres for Optical Communications (DRDO) D. Chakravorty Preparation and Characterisation of Amorphous Garnets (DOE) D. Bahadur Development of Oxide Glass Ceramics with Magnetic Phases (CSIR) D. Bahadur Study of Mechanical Properties' and Applications in Brazing of Rapidly Solidified Alloy Ribbons (BRNS, DAE) D.C. Agrawal Superionic Conductors and their Applications in Energy Conversion and Storage Devices (DST) K. Shahi

Synthesis and Studies of Electronic anJ Catalytic Properties of Rare Earth from Non-Metal Oxide Perovskites (DST) D. Bahadur

Growth and Study of Mixed Tertrates (CSIR) K.V. Rao, G.C. Upreti

Consultancy	q~Tlt~
Projects	9 110

AERONAUTICAL ENGINEERING qf~~)it;:rTtf

ch:fTf~ 3tf+f'lfi;(Qf

ftr+fT'l

Completed जो पूर्ण की गई

Study and Design of Ceiling Fans for Improved Performance (Agra Engg. IndustriE;!s, Agra) M. Krishnamurthy, R.K. Sullere

Measur~ment of Wind Velocity in Crop Shelter-Belts with the Wind Dial (Shri AMM Murugappa Chettier Research Centre, Madras) Kunal Ghosh

<u>In Progress</u> जो प्रगति में हैं

Preliminary Orbit Determination using Filtering Techniques (ISRO) K. Kumar, D. Yadav

CHKKICAL-KNGINEKRING रसायनिक अभियन्त्रण विसाग

<u>Completed</u> जो पूर्ण की गई

Development of Package Computer Programme for Hydrogen Gas Mixtures (Bharat Pumps and Compressors) A. Kumar, S.K. Gupta

- Maize Starch Project (Mahavir Starch Products Pvt. Ltd.) J.K. Gehlawat
- Starch and Glucose ~roject (Nalli Starch and Glucose Pvt. Ltd.) J.K. Gehlawat

<u>In Progress</u> जो प्रगति में हैं

Starch, Glucose and Sorbitol Project (Amravati Chemicals Pvt.. Ltd.)

J.K. Gehlawat

CIVIL ENGIREKRIBG **ftfm.** 1tf11~

Complete

R1fTt1' ′<u>‼L1Vt ~T ~</u>

d Dynamic Analysis of Diesel Engine Test Bed Foundations (RDSO, Lucknow) N.S.V. Kameswara Rao Design of the Effluent Treatment tor the Proposed Leather Finishing Industry {HaziManzoor Alam Industries Ltd., Kallpur) C. Venkobachar, Vinod Tare Surveys for 400 kV Power House Site N~ar Kanpur (NTPC) K.K. Rampal Soil Exploratio'n and Foundation Design for Mul ti-Storey Building (Band Const. Co. Kanpur) Umesh Dayal In Progress जो प्रगति में है Functional Design of Effluent Treatment Plant (Hari Fertilizers, . Sahipur) C. Venkobachar and Vindo Tare Design of Multistorey Complex (LDA Lu~know) P. Dayaratnam Design of Crawler Crane Tower (Hindustan Motors, Calcutta) ·P. Dayaratnam

Structural Design of Commercial Complex (LDA Lucknow) P. Dayaratnam

Structural Analysis of Tall Building (UPRNN, Lucknow) P. Dayaratnam

Re-Evaluation of Stability of *DIS* Slopes of Beas Dam at, Pong (Beas Design Office, Nangal) Yudhbir and P.K. Basudhar

COMPUTER SCIENCE AND ENGINEERING संगणक विज्ञान तथा अयियन्त्रण

जो प्रगनि पर है In Progress • Unix Development on Micro 32 (ECIL - Hyderabad) G. Barua $\texttt{electrical engineering film } n \texttt{ slflt} \sim \texttt{ fif'ftTtT}$ ٠ In Progress ~) Sl'1Tfa- ~ ~ Design and Development of Signal Averagers (DST-CEL) K.R. Sarma Design and Development of. a Microprocessor-baseq Indoor Processing Subsystem of Rail Axle Counting System (CEL) K.R. Sarma Power System R &D Cell of the UP State Electricity Board in 1IT Kanpur (UPSEB) L.P. Singh यांत्रिक अभियन्त्रण विमाग MECHANICAL ENGINEERING CAD of Press Tools (Godrej) S .G. Dhande CAD of Au t omot i ve Components (TELCO) S.G. Dhande Vibration Dynamics of Transmission Lines (EMC, Calcutta) A.K. Mallik Mathematical Modelling of Wheel Sets (RDSO) B.P. Singh, V. Sundararajan MA.TERIALS षातु विज्ञान SCIENCE Development of Ni Base Catalyst for Catalytic Refining of Naphtha (IEL, Kanpur) K.N. Ra:f.