

# Research Papers

अनुसंधान पत्र

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Manjul Gupta, P.K. Kamthan

METALLURGICAL ENGINEERING **धातुकर्मी अभियन्त्रण विभाग**

Principles of Extractive~etallurgy (The Indian Institute of  
Metals, Calcutta, 1984)

Ahindra Ghosh, Hem Shanker Ray

Sintered Metal-Geramic Composites (Elsevier, Amsterdam, 1984)

G.S. Upadhyaya

# Conferences attended

## सम्मेलनों में भाग लिया

### AERONAUTICAL ENGINEERING

Workshop on Preliminary Orbit Determination, Bangalore, January 1985

K. Kumar

### CHEMICAL ENGINEERING

### रसायनिक अभियन्त्रण विभाग

XXXVII IChE Annual Meeting, New Delhi, Dec. 1984

R.P. Singh, R.P. Chhabra, M.S. Rao, D.N. Saraf, R.D. Srivastava, A. Kumar, S.K. Gupta, D. Kunzru

National Seminar on Problem of Petroleum Production, Dhanbad, Oct. 1984

D.N. Saraf, K.A. Narayan

VII R & D Program on Computer Simulation Studies of Ammonia Plants, Fertilizer Association of India, Phulpur, September 1984

D.N. Saraf

ACS Symposium on Reverse Osmosis and Ultrafiltration, Philadelphia, USA, August 1984

P.K. Bhattacharya

VII All Union Heat and Mass Transfer Conference, Minsk, USSR, May 1984

J.P. Gupta

### CHEMISTRY

### रसायन विभाग

National Symposium on Organic Chemistry, Calcutta, March 1985

S. Chandrasekaran

Research School of Chemistry, Australian National University, Australia, June 1985

S. Chandrasekaran

School of Fluorescence, Symposium on Photophysical and Photochemical Process in Biological Systems. Hyderabad. April 12, 1985

S.K. Dogra

V National Workshop on Atomic and Molecular Physics, Bombay, 1984

P.K. Ghosh

A Short Course on the Synthesis of Vitamin B<sub>12</sub>, RRL, Hyderabad,  
May-June 1985

S. Ranganathan

A Short Course on Woodward-Hoffmann Rules" RRL, Hyderabad, June  
1985

S. Ranganathan

Diamond Jubilee Celebrations of the Indian Chemical Society,  
Calcutta, October 1984

S. Sarkar, N. Sathyamurthy

Annual Meeting of the Indian Council of Chemists, Gorakhpur,  
January 1, 1985

N. Sathyamurthy

DST/PAC Workshop on Update in Inorganic and Physical Chemistry,  
Bangalore, January 13-14, 1984

N. Sathyamurthy

V International Conference on Organic Synthesis, West Germany,  
February 1984

S. Chandrasekaran

V Asian Symposium on Medicinal Plants and Spices, Seoul, South  
Korea, 1984

D.N. Dhar

XXIII International Conference on Coordination Chemistry, Boulder,  
USA, July 29 - August 3, 1984

S. Sarkar

II International Conference on Bioinorganic Chemistry, Algarve,  
Portugal, April 15-19, 1985

S. Sarkar

**CIVIL KBGIBKKRING**

**सिविल अभियन्त्रण विभाग**

National Seminar on Pollution Control and Environmental Management,  
Nagpur, March 12-20, 1985

C. Venkobachar

VIII World Conference on Earthquake Engineering, San Francisco,  
USA, July 1984  
S.K. Jain

Summer School on Thermodynamics for Earth Scientists, Roorkee,  
June 1984  
B.C. Raymahashay

LXIV Annual Meeting of the Transportation Research Board,  
National Research Council, Washington D.C., USA, January 14-18,  
1985  
S.P. Palaniswamy

National Symposium on Formulation and Appraisal of Irrigation  
Projects, Patna, March 28-30, 1985  
V. Lakshminarayana

XXIX ISTAM Congress, Surathkal, Karnataka, December 27-30, 1984  
T. Gangadhariah, K. Subramanya

Internationnal Symposium on Design and Performance of Underground  
Openings, Cambridge, UK, September 1984  
**Yudhbir** ~

International Conference on Computer Aided Analysis and Design of  
Concrete Structures, Part II, Yugoslavia, 1984  
A.S.R. Sai

Asia Pacific Symposium on Ferrocement Applications for Rural  
Development, Roorkee, 1984  
A.S. R. Sai

XXIX Indian Society for Theoretical and Applied Mechanics  
(ISTAM), Surathkal, 1984  
A.S.R. Sai

Computer 85 - II International Conference on Computer-aided  
Analysis and Design in Civil Engineering, Roorkee, 1985  
A.S.R. Sai

II International Symposium on Ferrocement, Bangkok, Thailand,  
1985  
A.S.R. Sai

National Seminar on Tall Reinforced Concrete Chimneys, New Delhi,  
1985  
A.S.R. Sai

Annual Convention of Computer Society of India, March 1985

R. Sangal, Om Vikas

Conference on Social and Philosophical Implications of Artificial Intelligence, NISTADS, New Delhi, December 1985

R. Sangal

Workshop on Computer Aided Instruction, Delhi, March 1985

Om Vikas

International Conference on Computers Systems and Signal Processing, Bangalore, December 1985

Om Vikas

## ELECTRICAL ENGINEERING

## विद्युत अभियंत्रण विभाग

Seminar on Application of Microprocessors in Mines~ CMPDI, Ranchi, February - March, 1985

R. Raghuram, P.K. Joshi

Workshop on Review of State-of-the-Art in CAD for LSI/VLSI, Chandigarh, March 1985

R. Raghuram

Conference on EHV Technology, Bangalore, August 1984

K. R. Padiyar

International Conference on Computers, Systems and Signal Processing, Bangalore, December 1984

K.R. Padiyar, Sachchidanand, J. Das, S.S. Prabhu, S.K. Mullick, A.K. Raina, S.R. Doradla

National Systems Conference, Bombay, December 1984

K.E. Hole, K.R. Padiyar, R.P. Agarwal

INSA Seminar, Calcutta, February 14-16, 1985

J. Das

Seminar on Telecommunication, DEAL, Dehradun, March 16, 1985

J. Das

XI Annual Convention (ACE) of IEEE India Council, Calcutta, December 1984

S.K. Mullick

Seminar on HV Power Tran •• i881on and Distribution Systeas, New  
Delhi, May 1984

R. Arora

Conference and Workshop on EHV Technology, Bangalore, August  
1984

R.D. Begamudre, R. Arora

Industry Applications Society, IEEE-IAS - 1484 Annual Meeting,  
Chicago, USA, September 30 - October 4~ 1984

S.R. Doradla

HUMANITIES AND SOCIAL SCIENCES

**मानवकी तथा सामाजिक विज्ञान विभाग**

International Association of Cross Cultural Psychology, Mexico,  
1984

Usha Kumar

International Conference on Third World Trade Unionism, Ottawa,  
Canada, 1984

E. Haribabu'

"

International Workshop on Development of Biosphere Stability, New  
Delhi, 1984

B. Rath

XVIII All Orissa Annual Economic Conference, Jeypore, Orissa,  
1985

B •. Rath

All India English Teachers' Conference, Pune, 1984

S.K. Aithal

Seminar on Calligraphy, Lettering and Typography of Indiari  
Languages, Calcutta, 1984

B.N. Patnaik

National Seminar on Indian Englifh, New Delhi, 1985

B.N. Patnaik

Seminar on Philosophy of Science in the Indian Context, New  
Delhi, 1984

R. Prasad

Seminar on Sociology of Knowledge, Chandigarh, 1985

R. Prasad

ICPR Seminar on Man, Society and Environment, Lucknow, 1985  
R. Prasad, S.A. Shaida

National Seminar, Saugar, December 1984  
S.N. Mahajan

XXI Conference of the Indian Academy of Applied Psychology,  
L. Krishnan

Seminar on Women's Education and Employment, Kodai Kanal, 1984  
P.N. Rastogi

Seminar on Marx, Asia and Sociology, Varanasi, 1984  
R. Pandey

National Seminar on the Sociology of Professions, Jodhpur, 1984 R.  
Pandey

National Seminar on Peasants and Peasant Resistance in Eastern  
India, Shillong, 1984  
V.K. Jairath

National Seminar on Indian Scientific Community; Bangalore,  
1985  
V.K. Jairath

S.N. Sikder Lecture, Assam Science Society, Guwahati, 198)  
V.K. Jairath

North-East India Council for Social Science Research  
A.K. Sharma

Teacher Training Programme in Art Education, NCERT, Udaipur,  
1985  
R.K. Bhatnagar

MATHEMATICS **गणित विभाग**

Indian Science Congress, Lucknow, January 3-8, 1985  
R.S.L. Srivastava., J.B. Shukla, J.N. Kapur

V International Congress on Mathematics Education, Adelaide,  
August 1984  
•J.N. Kapur

L'

Engineering and Physics in Life Sciences Conference,- Adelaide,  
August 1984

J.N. Kapur

Annual Conference of Indian Society of Agricultural Statistics,  
Calcutta, November 1984

J.N. Kapur

Workshop on Preparation of Lectures, Kanpur, December 1984-

J.N. Kapur

Association of Mathematics Teachers of India, Annual Conference; Pune, December 1984

J.N. Kapur

Workshop on Patterns in Mathematics, NCERT, New Delhi, January 1985

J.N. Kapur

National Symposium on National Integration, Kanpur, February 1985

J.N. Kapur

National Symposium on Science, Technology and Social Change: 1900-1980, INSA, Calcutta, February 1985

J.N. Kapur

Workshop on the Applications of Mathematics in Economics, Allahabad, April 1985

R.S.L. Srivastava

Xth International Biometrics Conference, Tokyo, Japan, September 1984

G.K. Shukla

Silver Jubilee Session of Indian Society of Agricultural Statistics, New Delhi, December 1984

G.K. Shukla

International Conference on Differential Equations, Edinburg, - USA, May 20-2-3,

1985 M. Ram

Mohan Rao

Autumn School on Semi-groups and Applications, ICTP, Trieste, Italy, October 2 - December 6, 1985

P.C. Das

National Conference on Industrial Tribology, Hyderabad, 1984  
Peeyush Chandra

UGC Instructional Conference on Harmonic Analysis on Locally  
Compact Groups, Bombay, June 3-22, 1985  
U.B. Tewari

V IMACS International Symposia on Computer Methods for Partial  
Differential Equations and Cauchy Singular Integral Equations,  
Bethlehem, USA, June 19-22, 1984  
M.K. Kadalbajoo

II Workshop on Numerical Solution of Boundary Value ODEs,  
Vancouver, Canada, July 10-13, 1984  
M.K. Kadalbajoo

International Congress on Computational and Applied Mathema- .  
tics, Leuven, Belgium, July 24-27, 1984  
M.K. Kadalbajoo

MECHANICAL ENGINEERING      **याँत्रिक अभियन्त्रण विभाग**

CSI Seminar on Computers and Industry, Allahabad, January 4-6,  
1985  
S.G. Dhande

NACOMM-85, Bangalore, February 1985  
A.K. Mallik~ S.G. Dhande

IEEE International Conference on Computers and Systems,  
Bangalore, January 1985  
S.G. Dhande

IFIP International Conference on CAD/CAM/CAE, Bangalore, June  
29-30, 1985  
S.G. Dhande

III International Conference on Boundary and Interior Layers,  
Dublin, Ireland, June, 20-22, 1984  
V.K. Garg

XXIX ISTAM Congress, Surathkal, Karn~taka, December 27-30, 1984  
V.K. Garg

Seminar on Solidification and Casting of Metals, Roorkee, 1984  
V.K. Jain

.Workshop on Rural Ener'gy Planning, Ensonde, The Netherlands, May  
1 - June 30, 1984  
H.C. Agarwal

Symposium on Recent Developments in Welding Metallurgy and  
Processes"Bombay., February 1985  
G.S. Kainth

VI ISME Conference, Delhi, January 1985  
G.S. Kainth

LXV Annual Convention of the Institution of Engineers (I),  
Jaipur, February 15-18, 1985  
A. Ghosh

XI AIMTDR Conference, Madras, December 1984  
G.K. Lal, K. Sriram, M.K. Muju

III International Model Analysis Conference, Orlando, USA,  
January 1985  
V. Sundarara),an

Se minar on Tec hnol ogy Adapt a t ion for Rur al De lJe 10 pme n  
t. Calcutta, December 19, 1984  
A. Ghosh

METALLURGICAL ENGINEERING **धातुकर्मी अभियन्त्रण विभाग**

National Seminar on Solidification and Casting, Roonke~~ October  
12-13, 1984  
V. Bansal, G.S. Upadhyaya

XXX Annual MMM Conference, San Diego, USA, November 2b-30t,1984  
A.R. Das

In te rna tional Powder Me tall urgy Conference, Toronno,  
CanadCl, June 17-22, 1984  
R.K. Dube, G.S. Upadhyaya

CALPHAD XIII : International Conference on Phas€ Diagram-  
Calculation and Experimental Determination of Phase Diagram,  
Grenoble, France  
K.P. Gupta

International Conference on Fracture, New Delhi, December 1984  
S.P. Gupta, G.S. Murty

XXX International Symposium on Advances in Electro-  
Chemical Science and Technology, Madras, December 9-13, 1984

K.P. Singh

Workshop on Oxidation of Metals and Alloys, Kalpakkam, December  
13-15, 1984.

K.P. Singh

National Seminar on Crystal Growth, Madras, August 29, 1984

M.N. Shetty

XI National Powder Metallurgy Conference, Jamshedpur. February 8-9,  
1985

G.S. Upadhyaya

International Conference on HSLA Steels, Australia, August 20, 1984

M.N. Shetty

Workshop on Indian Astrology for the Federation of Australian  
Astrologers, August 26, 1984

M.N. Shetty

National Seminar on Mn-nodules, Bhubaneswar, March 1985

R.K. Ray

XIII Biennial Congress of the International Deep-drawing Research  
Group, Melbourne, 1984

R.K. Ray

## **PHYSICS      भौतिक विभाग**

International Conference on Nuclear Physics" Bombay, December 27-  
31, 1984

S.K. Sharma

National Conference on Crystallography, Delhi, December 1984

R.C. Srivastava

VII International Conference on Positron Annihilation, New  
Delhi, January 6-11, 1985 .

R.M. Singru, Rajendra Prasad

National Symposium on Quantum Electronics, Bombay, January 1985

Bansi Lal

III International Conference on Exafs Studies, Stanford, USA,  
1984

S.C. Sen

International Conference on Luminescence, Wisconsin, USA, 1984

S.C. Sen

National Conference on High Energy Physics, Jammu, October 1-84

R. Ramachandran, H.S. Mani

National Seminar on Solid State Physics, Calcutta, February 14-17,  
1985

D.C. Khan, A.K. Majumdar

Summer School on Ceramic Materials in Energy Conversion  
Devices, Kharagpur, June 1984

K. Shahi

INDUSTRIAL AND MANAGEMENT ENGINEERING

## औद्योगिक तथा प्रबंध अभियन्त्रण कार्यक्रम

Annual Conference of International Federation of Operations  
Research Societies, Washington D.C., USA, August 1984

A.K. Mittal

Annual Convention of Operational Research Society of India,  
Ahmedabad, December 1984

A.K. Mittal, S. Sadagopan, Kripa Shankar

V International Conference on Mathematical Modelling, Berkeley,  
USA, July 20-31, 1985

J.L. Batra, R.K. Ahuja

International Symposium on Mathematical Programming, Boston, USA,  
August 5-9, 1985

J.L. Batra, R.K. Ahuja

Symposium on System Improvement through Operational Research  
Systems Analysis, New Delhi, February 1985

Kripa Shanker

MATERIAL SCIENCE

## धातु विज्ञान

IV International Conference on Ferrites, San Francisco, USA,  
October 31 - November 2, 1984

D. Bahadur

National Seminar on Ferroelectrics and Dielectrics, Bangalore,  
October 17-19, 1984

K.V. Rao

Symposium on Quantum Electronics, Bombay, January 14-16, 1984

K.V. Rao

## Sponsored Projects

गणित की शिक्षण योजना

AERONAUTICAL KBGIUEHHRG

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Completed

जो पूर्ण की गई

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

S.C. Raipinghani

In Progress जो प्रगति पर है

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

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Completed

जो पूर्ण की गई

Hydrodynamics, Mixing and Mass Transfer in Turbulent Bed Contactor (CSIR)

D.P. Rao

In Progress

जो प्रगति पर है

Inter and Intra Molecular Energy Transfer (DST)

Y.V.C. Rao

Study .of Vibrational Re--laxation Times in CH<sub>4</sub> -O<sub>2</sub>, SO<sub>2</sub>-o<sub>2</sub>' C<sub>2</sub>H<sub>6</sub>O<sub>2</sub> 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

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Completed

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Alkali Metal Induced Generation of Radical Anion and Dianion Intermediates and Their Role in Organic Transformations (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 (DST)  
N. Sathyamurthy

In Progress qr) nr~ ~.1

Studies Directed Toward the Synthesis of Cyclopentanoid Natural Products (DST)  
S. Chandrasekaran

Studies in Insect Sex Pheromones (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 Applications (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 IR Imaging Spectrometer and Imaging Techniques for Applications to Studies of Multicomponent Biosystems (DST) P. Raghathan

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 an1flt''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

In Progress **जो प्रगति में हैं.**

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

COMPUTER SCIENCE AND ENGINEERING **W~ m-A ~ 3lfifQ'!**;

In Progress with Sfrfu' -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 Communication  
Systems (DRDO)  
P.R.K. Rao

Transform and Iterative Techniques in Digital Image Processing  
(DRDO)  
S.K. Mullick

Investigation of Transparent Conductors for Application in  
Electron Devices (NSF, USA) .  
S. Kar

Integrated Devanagar Computer (DOE)  
R.M.K. Sinha, S.K. Mullick

Characterization and Modelling 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

Complete  
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 Post-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 the 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, Prediction, Monitoring 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 & Hornie, 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**

In  
Progress

जो प्रगति में हैं

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  
Progress

जो प्रगति में हैं

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

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

METALLURGICAL ENGINEERING

**धातुकर्मो अभियन्त्रण विभाग**

Completed      जो पूर्ण की गई

Preliminary Evaluation of Mass Transfer vis-a-vis Interfacial Reaction Control for Carbothermic Reduction of Iron Oxide (CSIR)

A. Ghosh, S. Kumar

In Progress      सर्वाधीन

LoW Cost Steel (Ministry of Overseas Development, 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 R & 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<sub>2</sub> and D<sub>2</sub>  
(DST)

K.N. Rai, J~tendra Kumar, Sanjay Gupta

Oxidation and Mechanical Behaviour of Chrome-Mo-Ferritic Steel  
at High Temperature and Pressure in Air and Oxygen (DAE)

K.P. Singh

Corrosion and Fatigue Behaviour of Prestressing Steel Wires  
(Hindustan . Wires Ltd., Kanpur)

Raj Narayan

Development of Simulation Model for Predicting Floatation  
Recovery/Grade of Chalcopyrite using Laboratory Data (ELL)

S.P. Mehrotra

## PHYSICS ;ft~ R;ntf

### In Progress \ft STtTfaIt 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 Beams in Environmental and other Fields (DST)

G.K. Mehta, Y.R. Waghmare

INDUSTRIAL AND MANAGEMENT ENGINEERING

औद्योगिक तथा प्रबन्ध अभियन्त्रण  
कार्यक्रम

In Progress ~T~CT it~

Technical Manpower Information Centre (Ministry of Education) J.L.  
Batra, B. Rath

MATERIALS SCIENCE

धातु विज्ञान

In  
Progre,ss

जो प्रगति में हैं

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 and 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 Projects

q~Tlt~ qf~)it;:rTtf ch:fTf~

AERONAUTICAL ENGINEERING

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

In Progress      जो प्रगति में हैं

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

CHKKICAL-KNGINEKRRING

रसायनिक अभियन्त्रण विभाग

Completed      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

In Progress      जो प्रगति में हैं

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

Completed

1981-82

Dynamic Analysis of Diesel Engine Test Bed Foundations (RDSO, Lucknow)

N.S.V. Kameswara Rao

Design of the Effluent Treatment for the Proposed Leather Finishing Industry (Hazi Manzoor Alam Industries Ltd., Kallpur)

C. Venkobachar, Vinod Tare

Surveys for 400 kV Power House Site Near Kanpur

(NTPC) K.K. Rampal

Soil Exploration and Foundation Design for Multi-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 Vinod Tare

Design of Multistorey Complex (LDA

Lucknow) 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 अभियन्त्रण

In Progress जो प्रगति पर है

- Unix Development on Micro 32 (ECIL - Hyderabad) G. Barua

ELECTRICAL ENGINEERING film n 3,ft~ ffffttT

In Progress ~) S'ITfa~~

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 IIT  
Kanpur (UPSEB)  
L.P. Singh

MECHANICAL ENGINEERING यंत्रिक अभियन्त्रण विभाग

CAD of Press Tools (Godrej)  
S .G. Dhande

CAD of Au t omo t 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 धातु विज्ञान  
SCIENCE

Development of Ni Base Catalyst for Catalytic Refining of Naphtha  
(IEL, Kanpur)  
K.N. Ra:f.



