

FOR SCIENCE, TECHNICAL AND ECONOMIC  
INFORMATION

N

UDC 019.941.6:05 [62+33] (438)  
PL ISSN 0032-3004  
Index 36914

---

# Polish Technical and Economic Abstracts

---

21728 - 21988

No 1 (113) WARSZAWA 1979

an  
9/01

Editorial Board:

Z. Majewski, R. Mikoda, H. Osmólski, J.B. Sęktas

E. Zwolański (Editor-in-Chief)

Secretary: J. Kępa

Editor: Elżbieta Kazanecka

Technical editor: Teresa Ożarowska

Lib  
029.96  
KAZ

Translator: Helen M. Massey

156913  
1989  
19.10.89  
A. Nagnum

Editor :

Centrum Informacji Naukowej, Technicznej i Ekonomicznej

Publishing Office:

00-950 Warszawa, P.O. Box 355

## FOREWORD

Polish Technical and Economic Abstracts is a review of the latest scientific and technical achievements in Poland. It contains abstracts of articles from periodicals, books, research reports and other source material, and its primary aim is to present an account of those achievements which form an important contribution to technical progress.

The editors are anxious to include, first and foremost, fields of interest to the reader, which are concerned with the application of modern methods and technologies, emphasis also being laid on their economic significance.

We present our publication to you and would be happy to cooperate with you in receiving your publications in exchange. Foreign achievements are of great interest to us in that we would like them to be more widely known in Poland.

All comments regarding Polish Technical and Economic Abstracts will be gratefully received as they will help us to make further improvements in our publication.

This publication may be obtained by way of :

- exchange at Centrum Informacji Naukowej, Technicznej i Ekonomicznej, 00-950 Warszawa, Al. Niepodległości 186, tel. 25-12-41, telex: cinte wa 813716.

- subscription through CHEZ Ars Polona - 00-068 Warszawa, ul. Krakowskie Przedmieście 7, P.O., Box 1001.

Subscription rates should be paid to CHEZ ARS POLONA, BANK HANDLOWY, SA, Warszawa, ul. Traugutta 7.

Price per copy \$ 8, yearly subscription \$ 32.

Photocopies and microfilms of abstracted materials are provided on request addressed to the Centrum Informacji Naukowej, Technicznej i Ekonomicznej, Sekcja wymiany i poszukiwań, 00-950 Warszawa, P.O. Box 355.

The Abstracts are edited in four languages: English, French, German and Russian.

## PERIODICALS INCLUDED IN OUR REVIEW

### Periodicals:

Aktualne Problemy Informacji  
i Dokumentacji

Current Problems of Informa-  
tion and Documentation

Archiwum Automatyki i Telemekhaniki  
Archives of Automatics and Teleme-  
chanics

Archiwum Budowy Maszyn  
Archives of Mechanical Engineering

Archiwum Elektrotechniki  
Archives of Electrotechnics

Archiwum Górnictwa  
Archives of Mining

Archiwum Hutnictwa  
Archives of Metallurgy

Archiwum Hydrotechniki  
Archives of Hydrotechnics

Archiwum Inżynierii Lądowej  
Archives of Civil Engineering

Budownictwo Okrętowe  
Shipbuilding

Cement, Wapno, Gips  
Cement, Lime, Gypsum

### Publishing offices:

00-950 Warszawa  
Al. Niepodległości 186

00-818 Warszawa  
ul. Krajowej Rady Narodo-  
wej 55

00-665 Warszawa  
ul. Nowowiejska 22/24

00-662 Warszawa  
ul. Koszykowa 75

30-059 Kraków  
Al. Mickiewicza 30

30-059 Kraków  
Al. Mickiewicza 30

80-953 Gdańsk  
ul. Cystersów 11

00-901 Warszawa  
Pałac Kultury i Nauki

80-850 Gdańsk  
ul. Rajska 6

31-049 Kraków  
ul. Św. Sebastiana 20

Chemia Analityczna Analytical Chemistry	00-664 Warszawa ul. Noakowskiego 3
Chemia Stosowana Applied Chemistry	50-370 Wrocław Wybrzeże Wyspiańskiego 27
Cuprum	50-245 Wrocław ul. Trzebnicka 17/1a
Ekonomika i Organizacja Pracy Economics and Labour Organization	00-098 Warszawa ul. Niecała 4a
Ekonomista Economist	00-042 Warszawa ul. Nowy Świat 49
Energetyka Power Engineering	40-952 Katowice ul. Jordana 25
Gazeta Cukrownicza Sugar Journal	00-337 Warszawa ul. Bartoszewicza 9
Gaz, Woda, Technika Sanitarna Gas, Water, Sanitary Engineering	00-272 Warszawa Rynek Starego Miasta 12/14
Gospodarka Mięsna Meat Economy	02-360 Warszawa ul. Siewierska 6/3
Gospodarka Planowa Planned Economy	00-098 Warszawa ul. Niecała 4a
Gospodarka Wodna Water Economics	01-529 Warszawa ul. Kaniowska 30
Humanizacja Pracy Work Humanization	00-330 Warszawa ul. Nowy Świat 72

Hutnik	40-014 Katowice
Metallurgist	ul. Mariacka 17
Informatyka	00-041 Warszawa
Informatics	ul. Jasna 14/16
Inżynieria i Aparatura Chemiczna	44-100 Gliwice
Chemical Equipment and Engineering	ul. Plebiscytowa 1
Inżynieria i Budownictwo	00-637 Warszawa
Civil Engineering and Building	ul. Armii Ludowej 16
Koks, Smoła, Gaz	41-803 Zabrze
Coke, Tar, Gas	ul. Zamkowa 1
Maszyny i Ciągniki Rolnicze	00-043 Warszawa
Agricultural Machines and Tractors	ul. Czackiego 3-5
Mechanik	00-043 Warszawa
Mechanician	ul. Czackiego 3/5
Mechanika Teoretyczna i Stosowana	00-049 Warszawa
Theoretical and Applied Mechanics	ul. Świętokrzyska 21
Medycyna Pracy	90-950 Łódź
Industrial Medicine	ul. Teresy 8
Medycyna Weterynaryjna	20-033 Lublin
Veterinary Medicine	ul. Akademicka 12
Nafta	31-504 Kraków
Petroleum	ul. Lubicz 25a
Nowe Drogi	00-485 Warszawa
New Trends	ul. Piotra Maszyńskiego
Nowe Rolnictwo	00-024 Warszawa
Modern Agriculture	Al. Jerozolimskie 28

Nukleonika	00-901 Warszawa
Nucleonics	Pałac Kultury i Nauki
Ochrona Powietrza	40-026 Katowice
Air Protection	ul. Podgórna 4
Ochrona Pracy	00-549 Warszawa
Labour Protection	ul. Piękna 22
Ochrona Roślin	00-024 Warszawa
Plant Protection	Al. Jerozolimskie 28
Ochrona Terenów Górniczych	40-956 Katowice
Protection of Mining Areas	ul. Poniatowskiego 31
Polimery	01-793 Warszawa
Polymers	ul. Rydygiera 8
Postępy Fizyki	00-681 Warszawa
Advances in Physics	ul. Hoża 69
Postępy Nauk Rolniczych	00-901 Warszawa
Advances in Agricultural Sciences	Pałac Kultury i Nauki
Prace Instytutu Elektrotechniki	04-703 Warszawa
Proceedings of the Electro- technical Institute	ul. Pożaryskiego 28
Prace Instytutu Maszyn Przepły- wowych	80-952 Gdańsk
Transactions of the Fluid-Flow Machinery	ul. Gen. J. Piłzera 14
Prakseologia	00-330 Warszawa
Praxiology	ul. Nowy Świat 72
Problemy Ekonomiki Transportu	00-682 Warszawa
Problems of Transport Economics	ul. Hoża 86

Przegląd Budowlany Building Review	00-043 Warszawa ul. Czackiego 3/5
Przegląd Górniczy Mining Review	40-951 Katowice Plac Gwarków 1
Przegląd Komunikacyjny Transport Review	02-546 Warszawa ul. Kazimierzowska 52
Przegląd Mechaniczny Mechanical Review	00-950 Warszawa ul. Świętokrzyska 14a
Przegląd Odlewnictwa Foundry Review	31-008 Kraków Rynek Główny 25
Przegląd Organizacji Review of Organizations	00-010 Warszawa ul. Sienkiewicza 12
Przegląd Papierniczy Paper-Making Review	90-007 Łódź Plac Komuny Paryskiej 5
Przegląd Spawalnictwa Welding Review	00-950 Warszawa ul. Świętokrzyska 14a
Przegląd Telekomunikacyjny Telecommunication Review	00-686 Warszawa ul. Barbary 2
Przegląd Włókienniczy Textile Review	90-007 Łódź Plac Komuny Paryskiej 5a
Przemysł Chemiczny Chemical Industry	00-108 Warszawa ul. Zielna 39
Przemysł Drzewny Wood Industry	00-043 Warszawa ul. Czackiego 3/5
Przemysł Spożywczy Food Industry	00-043 Warszawa ul. Czackiego 3/5

Roczniki Nauk Rolniczych  
Annals of Agricultural Sciences

05-110 Jabłonna k. Warszawy  
ul. Instytucka 3

Rozprawy Elektrotechniczne  
Electrotechnical Reports

00-661 Warszawa  
Pl. Jedności Robotniczej 1

Rudy i Metale Nieżelazne  
Ores and Non-ferrous Metals

40-014 Katowice  
ul. Mariacka 17

Technika i Gospodarka Morska  
Naval Technics and Economic

80-835 Gdańsk  
ul. Szeroka 30/40

Technika Motoryzacyjna  
Motor Engineering

00-043 Warszawa  
ul. Czackiego 3/5

Zeszyty Problemowe Postępów  
Nauk Rolniczych  
Progress in Agricultural  
Sciences

00-552 Warszawa  
Plac Inwalidów 10

---

**MATHEMATICS  
MATHEMATICAL MACHINES  
AUTOMATION  
SCIENTIFIC AND TECHNICAL INFORMATION**

---

21728

002.007

Odrował-Sypniewski Z., Ostrowski M.: SYWIR - the Information Retrieval and Bulletins Editing System, SYWIR - system wyszukiwania informacji i redagowania biuletynów. Informatyka 1978 No.7-8, pp. 19-21, fig. 1.

Characteristics of the information retrieval system SYWIR, designed and implemented on the Unified System and IBM 360/370 computers at the Institute for Scientific, Technical and Economic Information in Warsaw. The system is characterized by a considerable freedom of choosing input data structure and retrieval criteria, as well as by an interesting method for writing Polish characters on standard line printers in output documents.

21729

[002-05:377].001.1:002(438)SINTO 004.13

Kolankowski Z.: Unification of Information Units Workers' Education Programmes for the Needs of SINTO (Remarks and Proposals).

Ujednoczenie programów kształcenia pracowników placówek informacji dla potrzeb SINTO (uwagi i propozycje). Aktual. Probl. Inf. Dok. 1978 No. 6, pp. 3-5.

Discussed is - in controversial form - the problem of appropriately educated staff preparation, indispensable for effective implementation of the national system SINTO. Considering the existing divergences in the field of education of workers employed in three main sections taking part in SINTO's construction, namely: information centers workers, librarians and archivists, there

---

**PHYSICS  
MECHANICS**

---

21742

515.43/.44:625.2

Tentative Determination of a Mathematical Model of a Selected Rail-Vehicle. Chudzikiewicz A. et al. Próba wyznaczania modelu matematycznego wybranej konstrukcji pojazdu szynowego. Arch. Bud. Masz. 1978 issue 3, pp. 563-582, figs. 10, tabs. 2.

A linear and a nonlinear mathematical model of a rail-vehicle is compared on an example of the EU-07 locomotive. Nonlinearity in the system under consideration results from the assumption that the projections of the angular velocity vector of a rigid body on the axes of a moving reference frame are not equal to the projections of the same vector on the main central axes of inertia of the body.

21743

519.282:621.5.001.1

Woźnicki Z.: AGA Two-sweep Iterative Methods and their Application in Critical Reactor Calculations. Nukleonika 1978 No. 9, pp. 941-968, figs. 3, tabs. 2, in Engl.

Discussed are the AGA two-sweep iterative methods consisting in the generalization of the direct Gauss method for iterative solution of large systems of linear equations. The theoretical bases of these methods are formulated on the grounds of the Perron-Frobenius theory of non-negative matrices in which the regular splitting theory has been extended. The numerical results present-

---

**MACHINES CONSTRUCTION  
AND TECHNOLOGY**

---

21757

543.272.6:66.042

Górecki J., Sławuski P., Złotorzycki J.: Determination of Carbon Content in Dust from the Electric Precipitator Behind the Rotary Clinker Kiln. Oznaczanie zawartości węgla w pyłe z elektrofiltru za piecem obrotowym do wypalania klinkieru. Cement, Wapno, Gips 1978 No. 8-9, pp. 251-254, figs. 3, tabs. 2.

Explosion hazard in electric precipitators can be caused, among others, by excessive carbon content of the kiln exit gases entering the precipitator. The principles of measurement and description of measuring equipment which can be used to determine carbon content in the process dust from the cement industry.

21758

620.1.05:631.3

Nieścierowicz W.: Appearance of Bimoments in Agricultural Machinery Constructed of Thin-walled Rods, and their Effect on Growing Normal Stress. Powstawanie bimomentów w konstrukcjach maszyn rolniczych zbudowanych z prętów cienkościennych i ich wpływ na przyrost naprężeń normalnych. Masz. Ciąg. rol. 1978 No. 9, pp.14-16, figs. 10, tab. 1.

Here is shown the mechanism of formation of bimoments in constructions erected of thin-walled rods. Using as an example a carrying frame construction of a vehicle, a numerical determination

---

**ELECTRICITY  
ENERGETICS  
ELECTRONICS  
MEASUREMENTS**

---

21766

53.087.9:621.039

Kulikowska T.: System of Programmes for Neutron-Physics Calculations of the VVER Reactors. Система программ для нейтронно-физических расчётов реакторов типа ВВЭР. Nukleonika 1978 No. 6-7, pp. 691-708, in Russian.

The system of programmes for calculations of the VVER type reactors has been developed at the reactor computation department, Computing Centre CYFRONET, Institute of Nuclear Research. A short characteristic of the system is given together with the outline of consecutive steps in its preparation. Then each programme is described with emphasis put on the features inherent for the VVER type reactors.

21767

531.79.002.56

Szewczyk M.: Induction Torque-meter for Contactless Torque Moment Measurements. Momentomierz indukcyjny do bezdotykowego pomiaru momentu skręcającego. Prz. mech. 1978 No. 17, pp. 18-20, figs. 4.

An idea of a new induction torque-meter, SPIREX, of an unconventional and simple design, intended for contactless measurement of the torque moment on rotating rolls. Construction, operating range and basic kinematic relations of the torque-meter. Results of experimental testing of a number of meters prove their full usefulness in measuring static and dynamic torques.

---

**TRANSPORT  
COMMUNICATION**

---

21793

385/388

Kuziemkowski R.: Transport Development Limiting Factors. Czynniki ograniczające rozwój transportu. Probl. Ekon. Transp. 1979 No. 2, pp. 26-40.

Basic qualitative transportation requirements: large-scale character, speed, elasticity, safety, reliability and regularity of haulage. A presentation of factors which limit the development of transportation activities - adaptation of transport to natural barriers. Most reliable and regular has proved pipeline transportation, railroad carriage and motor transport, all in theory capable of perpetual performance.

21794

534.3:624.5

Langer J., Bryja D.: Spatial Free Vibrations of a Suspension Bridge. Przestrzenne drgania własne mostu wiszącego. Arch. Inż. ląd. 1978 issue 3, pp. 303-316, figs. 6, tabs. 2.

The motion equations for a suspension bridge with a thin-walled stiffener are derived. The equilibrium conditions are determined with respect to the shear centre of the cross-section of the beam. The different positions of the elastic centre, the shear centre, the mass centre and the suspension centre are taken into account and the second order statical corrections are calculated. Having the motion equations, the energy is balanced and a matrix

**GEOLOGY  
MINING  
PETROLEUM INDUSTRY**

21807

167.7:517:550.837.62:550.837.3

Biedka R., Grzywacz M.: Informative Properties of Electric Fields Obtained by Multi-electrode Systems above the Heterogeneities of the Type of a Sphere and an Elongated Spheroid. Informatyczne cechy pól elektrycznych uzyskanych za pomocą układów wieloelektrodowych nad niejednorodnościami typu kuli i sferoidy wydłużonej. Nafta 1978 No. 9, pp. 289-297, figs. 3, tabs. 4.

Discussed are theoretical foundations of the idea (realized in the WEGA system) of coding the electric fields in a geologic heterogeneous medium. As the result of a numerical analysis carried out on a computer there were obtained distributions of the electric field potentials above the heterogeneities of the type of a sphere and an elongated spheroid. From the theoretical results several practical conclusions were drawn which confirmed theoretical foundations of the WEGA system: a defined set of both geometric and current codes should be executed to explore the heterogeneity; the knowledge of the potential above the heterogeneity for the code system makes it possible to define the object, its shape and the electric parameters; occurrence of local extremes of the field distribution should not always be related to the epicentre of the occurring heterogeneity. The solution obtained is the theoretical foundation of the rules of coding and exploring geologic objects by means of controllable electric fields. This

**METALLURGY  
METALLOGRAPHY**

21831

539.378.2:531.787.1

Hinz L., Szteke W., Trocki J.: Optimization of the Welding Parameters in the Case of Manifolds in Tube-sheets of Steam Generators and Heat Exchangers in Nuclear Power Plants. Optymalizacja parametrów spawania węzłów rur w ścianach sitowych wytwornic pary i wymienników ciepła elektrowni jądrowych. Prz. Spawal. 1978 No. 8, pp. 13-18, figs. 14, tabs. 2.

Results of the reported experiments have made it possible to work out an optimal welding technique affording welds with required properties - in particular on application of a vibrating arc. Comparative trials on welding under a continuous and vibrating arc have proved it advantageous to apply impulse current. There results a greater depth of penetration and an improved configuration of the weld gained owing to the lesser linear energy introduced into the material welded. For welding tubes in tube-sheets a seam-welding head is absolutely necessary (e.g. of HOBART make); with its use it is possible to obtain high-quality welds.

21832

541.135:669.71

Bes T., Postrzednik S.: The Source of Heat in the Bottom of Aluminium Electrolyzer. Generacja ciepła w dnie wanny elektrolizera aluminium. Arch. Hut. 1978 issue 3, pp. 515-527, figs. 3.

---

CHEMISTRY AND CHEMICAL TECHNOLOGY

---

21860

536.416:662.66:662.741

Długosz A.: Vertical Contraction - the Manifestation of the Process of Coking. Skuroz pionowy jako wykładnik przebiegu procesu koksowania. Koks, Smoła, Gaz 1978 No. 7-8, pp. 211-214, figs. 6, tab. 1.

The vertical contraction of coked coal charge was found to be the function of temperature (in the tar seam) somewhat depending on the duration of the coking process at a constant temperature. Numerical value of the vertical contraction of the examined charge coked mixes was practically constant at different temperatures, about 5.5% of the maximal charge. There seems to exist an almost proportional dependence between the increment of the vertical contraction and the increment in the true density of the coked charge. On the other hand, there is no such dependence regarding losses in volatile substance. Presumably the vertical contraction occurs in consequence of changes in the microstructure of coke regarded as an increase in the degree of graphitization of the carbonic substances. The vertical contraction is a reliable indicator which facilitates examination of the process of coking and which provides grounds for drawing conclusions on its termination.

AGRICULTURE  
FORESTRY  
VETERINARY MEDICINE

21897 535.379: [591.111.1:616.155.392]

Owczarczyk B., Mazurczak J., Russak G.: Chemiluminescence of Plasma in Leukaemic Cows. Chemiluminiscencja osocza krwi u krów białaczkowych. Med. wet. 1978 No. 9, pp. 519-522, figs. 2, tab. 1.

The purpose of the work was to examine photon effects in the plasma of normal and leukaemia-suspected cattle by means of chemiluminescence. In the experiments the recombinations of free radicals' systems in the plasma being under the influence of higher temperature and after the addition of antioxidant (tocopherol) were controlled. The extracts from neoplasma tissues served as a control. It was found that the intensity of plasma ionization after the addition of tocopherol in the both populations was different and was reflected by the various values of the disappearance constant of ionization,  $k$ . In case of the plasma of normal cattle  $k > 0$  but in the plasma from cattle suspected and from neoplasma extracts  $k < 0$  were found. The findings were discussed taking into consideration different proportions of antioxidants and free radicals substrates in sera of normal and leukaemia-suspected animals.

21898 581.132:63.002

Wojcieszka U., Zinkiewicz E.: Photosynthesis-to-Respiration Ratio Used as an Indicator of Plant Productivity as against Some Yield-Affecting Factors. Stosunek fotosyntezy do oddychania jako

## INDUSTRY OF CONSUMPTION GOODS

---

21920 539.4:691.116:697.9

Gos D., Wardas S.: Effect of Wood Moisture on the Strength of Large-dimension Glued Elements Made of Sawn Timber. Wpływ wilgotności drewna na wytrzymałość elementów wielkowymiarowych skleja-nych z tarcicy. Przem. drzew. 1978 No. 8, pp. 11-13, figs. 6. tabs. 3.

Studies aimed at determining the effect of glued sawn timber moisture on the strength of large-dimension constructional elements. Investigations covered pine and spruce boards, 38 mm thick, cold-glued with the phenol-resorcinol resin "Panacolite 6-4422". Established was the effect of three ranges of moisture content (4-8%, 8-12%, 12-17%) on the strength of glued elements. It was found that moisture of glued sawn timber affects significantly the glue-line shearing strength both after seasoning and water-resistant tests. 12-17% range of moisture content proved to be the most suitable from technological and economic point of view.

21921 547.96:582.683.2:637.52

Pyrzc J., Pezacki W.: An Attempt to Apply Rape Protein Concentrates for Manufacturing Steamed Pork-Butcher's Meat. Próba zastosowania koncentratu białka rzepaku do produkcji wędlin parzonych. Gosp. mięs. 1978 No. 10, pp. 19-24, figs. 3, tabs. 7.

**BUILDING INDUSTRY  
ARCHITECTURE  
MUNICIPAL ECONOMY**

21932 624.012.3:65.011.56:624.043

Klentak G., Syczewski M., Tribilko R.: Automation of Concrete Constructions' Dimensioning. O automatyzacji wymiarowania konstrukcji betonowych. Prz. bud. 1978 No. 10, pp. 562-564, figs. 5.

Presented are algorithms used by the authors in the program derived for the automatic dimensioning of concrete constructions on the ODRA 1305 computer.

21933 624.042+072.2

Borowicz T.: Dynamic Effects of Moving, Distributed Loads on the Beam Systems. Efekty dynamiczne w ustrojach belkowych przy działaniu ruchomych obciążeń rozłożonych. Arch. Inż. ląd. 1978 issue 3, pp. 317-326, figs. 8.

Presented is an algorithm (based on the elastic finite elements method) for determining the vibrations of beams under moving, uniformly distributed loads. Given are some numerical results obtained with the use of a computer program, ANDBMES, worked out by the author.

21934 624.057

Żebrowski J.: Effects of Application of Two Independent Flow Production Lines in the  $W_k-70$  Factory at Elbląg. Efekty zastosowania dwóch niezależnych linii potokowych w wytwórni  $W_k-70$  w Elblągu. Prz. bud. 1978 No. 10, pp. 543-545, figs. 2.

**ECONOMY  
ORGANIZATION  
MANAGEMENT**

2195b

005

Stonert H.: Similiformal Sciences. A New Approach to Praxiology and Related Sciences. Nauki similiformalne. Nowe ujęcie prakseologii i nauk pokrewnych. Prakseologia 1978 No. 2, pp. 5-20.

Attention is paid to certain inadequacy of the dichotomy : formal and empirical sciences, and presented is a number of sciences which do not fit this dichotomy. The distinction of a new group of sciences is therefore suggested, which are, in a sense, intermediate between empirical and formal ones. The name "similiformal" (derived from Latin terms: similis - similar and formalis - formal) is proposed for this group. Similiformal sciences are characterized by the following properties: a/ deductive method, b/ only one (natural) interpretation is distinguished, c/ the distinguished interpretation is an empirical one, d/ these sciences do not change their basic interpretation in applications, e/ they take into account the empirical reality only when their basic concepts and theorems are formed; following that, they do not refer to it. It is pointed out that praxiology, organization theory and a number of related sciences, such as the theory of events, theory of systems, cybernetics, should be formulated in the shape of similiformal sciences. Moreover, it is stressed that such approach would be advantageous for the future development of these science.

---

ENVIRONMENT PROTECTION

---

21963

543.062:542.61:614.8

Tyras H., Stufka J.: Modification of Colorimetric Method of Dimethylformamide Determination in Air. Modyfikacja kolorymetrycznej metody oznaczania dwumetyloformamidu w powietrzu. Ochr. Pr. 1978 No. 9, pp. 7-9, figs. 2.

Elaborated has been modification of a colorimetric method of determination of dimethylformamide in air, based on hydrolysis of DMF to dimethylamine and colour reaction of the hydrolysis product with dinitrochlorobenzene. A detailed instruction of determination has been given. The method is characterized by a good precision (the relative standard deviation,  $s_r$ , amounts to 0,0406 for  $n = 30$ ), and it allows for an accurate determination of 5 mg DMF per cubic meter of air (amount corresponding to 1/2 MAC value). The method is specific in the presence of the majority of organic solvents.

21964

543.272.51

Wasag T., Gałka J.: Tests on the Mechanism of SO<sub>2</sub> Absorption Process in Water Suspensions of Calcium and Magnesium Carbonate. Badania mechanizmu procesu absorpcji SO<sub>2</sub> w wodnych zawiesinach węglanu wapniowego i magnezowego. Ochr. Powiet. 1978 No. 4, pp. 103-107, figs. 4, tab. 1.

---

## INDUSTRIAL SAFETY

---

21977 519.21:313.1:656.08

Jerzak M.: Hazard of Accidents in the Building Trades - Transportation, Erection and Assemblage. Prawdopodobieństwo wypadków podczas robót transportowych budowlano-montażowych. Ochr. Pr. 1978 No. 8, pp. 4-8, tabs. 6.

A report on six-year statistical analyses of accidents in building enterprises, forwarding agencies and transporting firms. On these grounds has been worked out a classification of transportation activities in the building trades as well as indices of probability of occurrence of accidents on performance of individual works.

21978 577.4:72.01

Szparkowski Z.: Ecology in Architectural Designing of Environment for Men in Industry. Ekologia w projektowaniu architektonicznym środowiska dla człowieka w przemyśle. Hum. Pr. 1978 No.5, pp. 41-48, figs. 4.

It is ecology which deals with the complex relations between man and his natural, technical and social environment. In the present article discussed are only relations referring to environment of man's work in industry and their impact on the architectural system of a given industrial plant. Presented are four diagrams, namely: 1. a schematic diagram of an architectural system, 2. pre-

## CONTENTS

Foreword . . . . .	3
Periodicals Included in Our Review . . . . .	5
Mathematical Machines, Automation, Scientific and Technical Information . . . . .	11
Physics, Mechanics . . . . .	18
Machines Construction and Technology . . . . .	27
Electricity, Energetics, Electronics, Measurements . . . . .	33
Transport, Communication . . . . .	48
Geology, Mining, Petroleum Industry . . . . .	55
Metallurgy, Metallography . . . . .	69
Chemistry and Chemical Technology . . . . .	87
Agriculture, Forestry, Veterinary Medicine . . . . .	113
Industry of Consumption Goods . . . . .	131
Building Industry, Architecture, Municipal Economy . . . . .	138
Economy, Organization, Management . . . . .	147
Environment Protection . . . . .	157
Industrial Safety . . . . .	165