

243071

JPRS 83910

18 July 1983

China Report

SCIENCE AND TECHNOLOGY

No. 203

1 99902241 23

FBIS FOREIGN BROADCAST INFORMATION SERVICE

REPRODUCED BY
NATIONAL TECHNICAL
INFORMATION SERVICE
U.S. DEPARTMENT OF COMMERCE
SPRINGFIELD, VA. 22161

DISTRIBUTION STATEMENT A

Approved for public release;
Distribution Unlimited

5
32
A03

CHINA REPORT
SCIENCE AND TECHNOLOGY

No. 203

CONTENTS

APPLIED SCIENCES

Cartography Work Yields Encouraging Results (RENMIN RIBAO, 16 May 83).....	1
Cartography Work Conference Held, by Xing Fengbing Cartographical Undertakings in China, by Huang Yunkang Importance of Cartography Work Stressed	
Q2 All-Fiberglass Light Aircraft Passes Initial Flight Test (JIEFANG RIBAO, 5 Jun 83).....	3

ABSTRACTS

ARTILLERY RESEARCH

BINGGONG XUEBAO [ACTA ARMAMENTARII], No 2, May 83.....	4
--	---

BIOCHEMISTRY

SHANGHAI DIYI YIXUEYUAN XUEBAO [ACTA ACADEMIAE MEDICINE PRIMAE SHANGHAI], No 3, May 83.....	5
--	---

COMMUNICATIONS

TONGXIN XUEBAO [JOURNAL OF CHINA INSTITUTE OF COMMUNI- CATIONS], No 2, 1983.....	6
---	---

FUEL EXPERIMENTATION	
QICHE JISHU [AUTOMOBILE TECHNOLOGY], No 4, 1983.....	8
MACHINE TOOLS	
ZUHE JICHUANG [MODULAR MACHINE TOOL], No 4, 1983.....	9
MEASUREMENT INSTRUMENTS	
JILIANG JISHU [MEASUREMENT TECHNIQUE], No 3, 18 May 83.....	10
METALLURGY	
GANGTIE [IRON AND STEEL], Nos 3, 4, Mar, Apr 83.....	11
OPTICS, PHOTOGRAPHY	
GUANGXUE XUEBAO [ACTA OPTICA SINICA], No 3, May 83.....	13
PRINTING TECHNOLOGY	
YINSHA JISHU [PRINTING TECHNOLOGY], No 5, 1983.....	14
QUALITY CONTROL	
ZHONGGUO ZHILIANG GUANLI [QUALITY CONTROL IN CHINA] No 5, May 83.....	15
STANDARDIZATION	
BIAOZHUNHUA TONGXUN [STANDARDIZATION NEWSLETTER], No 4, Apr 83.....	16
VEHICLE STANDARDIZATION	
BIAOZHUNHUA TONGXUN [STANDARDIZATION JOURNAL], No 5, May 83.....	18

CARTOGRAPHY WORK YIELDS ENCOURAGING RESULTS

Cartography Work Conference Held

Beijing RENMIN RIBAO in Chinese 16 May 83 p 2

[Article by Xing Fengbing [6717 7685 3521]: "Our Country Has Scored Encouraging Achievements in Cartography Work"]

[Text] The National Cartography Work Conference which was recently held by the State Cartography Bureau pointed out that the cartography work of our country has made new progress in serving national economic construction and society.

The total amount of cartographic work and the total number of charts completed in the last 3 years increased by a relatively large margin compared to previous years. Comparing 1982 to 1981, these increased by 11 and 14.3 percent, respectively. Since 1980, over 90,000 kilometers of first-order accuracy leveling surveys have been conducted, the coverage of 1:10,000 scale topographical mapping has reached 700,000 square kilometers and over 200 kinds of maps have been introduced to the public. With the assistance of relevant departments, the standard deviation of the national astronomical and geodetical networks has been successfully solved. This achievement is of great value to state economic construction, defense building, space technology and earth science research. Last year we re-edited and published "China's 1:1,000,000 scale topographical map," which is currently the best-quality topographical map ever published and which can most completely represent the territory of our motherland. In recent years, cartographical departments also published and introduced to the public large numbers of transportation maps, tourist maps and thematic wall maps, atlases and reference charts concerning hydrology, geology, meteorology, history and teaching. Some of the mapping data has been distributed to foreign countries.

Cartographical Undertakings in China

Beijing RENMIN RIBAO in Chinese 16 May 83 p 2

[Special column by Huang Yunkang [7806 0061 1660]: "Bits of Information" on "Cartographical Undertakings"]

[Text] Cartography is a general term for conducting various surveys and drawing up various maps. It includes four major parts--geodetic surveys, aerial

photographical surveys, map-making and engineering surveys. The products of cartographical work mainly fall into two categories. The first one is topographical maps of various scales which depict miniatures of the mountains and rivers in our motherland, accurately presenting a detailed configuration of the land, inhabited areas, roads, river systems, vegetation and distribution of other features on the earth's surface. The second is data of precise locations of various geodetic control points which serve as bases for all survey work and data of engineering surveys compiled for the specific needs of various projects.

Since the founding of our state, we have scored great achievements in our cartographical undertakings. We have established hundreds of thousands of survey control points of various kinds on the 9.6 million square kilometers of our land. We have completed drawing topographical maps of 1:50,000 and 1:100,000 scales, larger scale topographical mapping of large areas and producing various kinds of maps.

Importance of Cartography Work Stressed

Beijing RENMIN RIBAO in Chinese 16 May 83 p 2

[Brief commentary: "Pay Attention to and Make a Success of Cartography Work"]

[Text] Cartography work is the vanguard of economic construction--a work of fundamental significance. Construction of various projects and exploitation of natural resources should have accurate data and maps provided by cartographical departments for major bases.

For many years, the broad masses of staff and workers of cartographical departments have endured the hardships of fieldwork, worked in one place after another and traversed the length and breadth of the motherland, establishing geodetical survey control networks and surveying and drawing large numbers of national basic scale topographical maps. These cartographical achievements have played an important role in economic and national defense construction and scientific, cultural and educational undertakings.

In light of the needs of national economic development, cartography work should consider agriculture, energy resources, communications, education and science as a focal point and orientation of its service. It is necessary to actively and systematically carry out reforms, vigorously train cartographical personnel, ceaselessly adopt new techniques, improve cartographical means and upgrade cartography work.

Since cartography work is mostly fieldwork and because conditions are poor, leaders at all levels should be concerned with the well-being of the broad masses of cartographical personnel. The broad masses of technicians and staff and workers on the cartographical front should continuously carry forward fine traditions and serve as good vanguards of socialist construction.

12302

CSO: 4408/116

APPLIED SCIENCES

Q2 ALL-FIBERGLASS LIGHT AIRCRAFT PASSES INITIAL FLIGHT TEST

Shanghai JIEFANG RIBAO in Chinese 5 Jun 83 p 3

[Article: "All-Fiberglass Light Aircraft Makes First Successful Flight in Shanghai"]

[Text] Yesterday (the 4th), the all-fiberglass Q2 light homebuilt aircraft made its successful initial test flight at the Shanghai Aircraft Factory, passing inspection and certification by the American representatives.

The single-engine, two-place light/aircraft has an empty weight of 234.5 kilograms, an overall length of 5.97 meters, and a foreplane span of 5.08 meters and can take off after a ground run of a little over 100 meters. Maximum speed is 289 km/h and at cruising speed it can fly 18-25 kilometers on a liter of gas. Maximum range can reach 1,700 kilometers.

This light aircraft was developed by the Quickie Aircraft Corporation of the United States. Last year, the Shanghai Aircraft Factory, in order to fully use its superior expertise and technology and to actively develop foreign trade, signed an agreement with Quickie. The latter will supply materials and spare parts; assembly of a batch of these light aircraft will be handled by Shanghai for resale overseas.

Yesterday, the first Q2 to be assembled in Shanghai was flight tested by Chinese and American pilots. The flight was a complete success. The American pilot expressed his satisfaction at the quality of the first Q2 homebuilt to be assembled by the Shanghai Aircraft Factory.

CSO: 4008/126



The Q2 aircraft on the parking apron.

AUTHOR: XU Yuwang [6079 3768 2598]

ORG: None

TITLE: "Research on Internal Ballistics of High-low Pressure Launchers During Artillery Rocket Ignition in the Launching Tube"

SOURCE: Beijing BINGGONG XUEBAO [ACTA ARMAMENTARII] in Chinese No 2, May 83
pp 23-31

ABSTRACT: Tests have proved that if a high-low pressure recoilless launcher is used to fire artillery rockets and if the engine is ignited in the launching tube, the concentration rate [accuracy ?] of the rockets may be improved. Under the condition of in-tube ignition of the rocket engine, this paper establishes the ballistic equation in a series-structured [tandem] high-low pressure recoilless launcher and proceeds with numerical computation of experimental projectiles. Effects of such parameters as the initial volume of the low pressure chamber, the position of engine ignition, the area ratio of the front nozzle exit and the tail nozzle throat of the high pressure chamber, etc. on the internal ballistics are also discussed. Results of computation agree very well with the test results. This paper was received for publication on 21 Sep 81.

AUTHOR: FAN Xiaocai [2868 1321 2088]

ORG: None

TITLE: "On the Problem of Scorching and the Calculation of Rising Temperatures of Mortar Tube During Rapid Firing"

SOURCE: Beijing BINGGONG XUEBAO [ACTA ARMAMENTARII] in Chinese No 2, May 83
pp 61-inside backcover

ABSTRACT: Due to the fact that the wall of the mortar tube is thin, the temperature of the tube readily rises during rapid firing and may even reach a state of scorching (above 300°C.) The high heat will directly affect the continuous firing capability of the mortar tube. This has become a critical problem in modern research on high efficiency mortars. If a light metal, such as titanium alloy, is used to raise the mechanical property of the mortar tube by increasing the metal utilization coefficient, the problem of scorching will be even more serious. Based upon theories of heat transfer, internal ballistics, and computation technology, this paper proposes a mathematical model of the rising temperatures of the mortar tube during rapid firing. Results of calculation on a computer are found to be close enough to experimental results for the model to be used to provide reference data in mortar research. Further tests and computations are needed with respect to rising temperatures under different firing conditions so as to accumulate experience for the model to be used to aid mortar designing and test result forecasting.

6248

CSO: 4009/183

AUTHOR: SUN Xiaojian [1327 1420 0313]
HE Kailing [0149 7030 3781]

ORG: Both of Biochemistry Teaching and Research Office, Department of Basic Medicine, Shanghai First College of Medicine

TITLE: "DNA Saturation Analysis - A Method for Determining the Relative Content of RNA Polymerase"

SOURCE: Shanghai SHANGHAI DIYI YIXUEYUAN XUEBAO [ACTA ACADEMIAE MEDICINE PRIMAE SHANGHAI] in Chinese No 3, May 83 pp 213-217

ABSTRACT: For the purpose of rendering the saturation analysis method of Schmid suitable for intact nuclei, the authors improved it with 25w, 30s ultrasonic treatment. When the bovine thymus DNA, a high-polymer product of Serva Feinbiochemica Heidelberg, is treated ultrasonically and added to the transcription system of liver cells of white rat as an exogenous DNA template, the transcription activity increases, and when the template increases to a certain density, all the RNA polymerases are able to be bound to the template and the transcription activity reaches a close to saturation state. With the density of the exogenous DNA as the horizontal coordinate and the transcription activity as the vertical coordinate, a DNA saturation curve may be obtained. The improved method causes the relative content of RNA polymerase to be determined in an intranuclear environment closer to the physiological state. The results are, therefore, closer to the actual condition within the body. Results of 6 measurements indicate the relative content of normal white rat RNA polymerase to be $120 \pm 3.64 \text{ u} / 10^8$ cell nuclei; the relative activity of RNA polymerase to be $16.3 \pm 1.97 \text{ pmol} / \text{u}$.

6248

CSO: 4009/181

Communications

AUTHOR: CAI Jianming [5591 0494 6900]

ORG: Institute of Communication Engineering

TITLE: "Simultaneous Optimization of TV Preemphasis and Frequency Deviation on an FM Satellite Link"

SOURCE: Beijing TONGXIN XUEBAO [JOURNAL OF CHINA INSTITUTE OF COMMUNICATIONS] in Chinese No 2, 1983 pp 9-17

TEXT OF ENGLISH ABSTRACT: This paper first discusses the relationship of the emphasis parameters with transmission performance indexes, such as weighted luminance signal to noise ratio and threshold level, and then plots several curves calculated by a computer. In addition, it suggests the optimized preemphasis circuit and gives results of an experiment on an earth station IF loop. By using the suggested optimized preemphasis circuit, the luminance S/N can be improved by 2.5-3 dB over the CCIR 405-1 circuit, with the differential gain and the differential phase, etc., basically unchanged. The emphasis circuit can be used with various IF filters at different bandwidths. A comparison is made between the optimized preemphasis network dwelled upon in the documents of the AIAA 7th Communications Satellite Systems Conference (1978) and the one mentioned above. Moreover, the paper also gives the calculating curves of the relationship between threshold levels of TV link and IF noise bandwidth and suggests, from experiment results, an empirical equation for optimized frequency deviation.

AUTHOR: CHEN Wenyu [7115 2429 6276]
WANG Anlu [3769 1344 6922]

ORG: Both of the 4th Research Institute, Ministry of Posts and Telecommunications

TITLE: "High Performance Antenna for Microwave Radio Relay Communication"

SOURCE: Beijing TONGXIN XUEBAO [JOURNAL OF CHINA INSTITUTE OF COMMUNICATIONS] in Chinese No 2, 1983 pp 36-42

TEXT OF ENGLISH ABSTRACT: This paper deals mainly with the project of high performance antennas with only the sub-reflector modified and a simple step dual mode conical horn as the feeder source, and its practicable results have already been achieved on antennas of a microwave relay communication system. A brief introduction of the development process and some basic points regarding scheme selection are presented. The gist of antenna design, the performance of each individual part and the practically measured results are also given. Satisfactory experimental results have been achieved in the aperture efficiency, VSMR over design band, cross-polar discrimination and radiation pattern, etc.

Antennas of various apertures and bands are already in mass production and have been put into use in microwave relay communication systems.

AUTHOR: WU Zhaoxiong [0702 0340 3574]

ORG: Jiaotong University, Xi'an

TITLE: "Method of eb-Junction Temperature Compensation in Linear Transistor Circuits"

SOURCE: Beijing TONGXIN XUEBAO [JOURNAL OF CHINA INSTITUTE OF COMMUNICATIONS] in Chinese No 2, 1983 pp 86-88

TEXT OF ENGLISH ABSTRACT: A new method of temperature compensation, called the eb-junction compensation method, is devised and experimentally substantiated. The new method is designed to overcome the many drawbacks of the conventional thermistor compensation method. The method is based on the established facts that the temperature dependence of the emitter current of a triode operating with a biasing circuit configuration can be precisely determined, and that the dependence relation is solely determined by the room temperature quiescent current I_{Qe} and, dominantly, the value of R_E chosen. It then follows that the law of variation of $r_e = KT/qI_{Qe}$ with T can be put under the designer's control and can be devised to meet various temperature sensitivity specifications by suitably choosing I_{Qe} and R_E . Therefore, the then compliant r_e can be used in place of the thermistors to meet the requirement of temperature compensation. The mathematical model (a transcendental equation) for computing the operating

[Continuation of TONGXIN XUEBAO No 2, 1983 pp 86-88]

performance of the eb-junction compensation method is given. A set of pilot test data and the computed results of a 90-100 dB IF amplifier used in a radar receiver are also given. The experimental data support the validity of the new method and also evidence that the new method is really inviting, since the circuit can be designed to fit the required specifications well by numerical computation in place of the relatively blind trial-and-error "design" procedure used when employing thermistors and therefore, since the possibility that thermistor compensation may become inoperative during the transient interval when the temperature of the circuit abruptly changes, can be eliminated. The circuit derives this merit from the fact that the seat of gain variation, the temperature sensing point and the location of the compensation mechanism are all situated at the same point--the eb-junction. The temperature range of effective compensation is wider than that obtainable by the conventional thermistor method as is demonstrated.

9717

CSO: 4009/172

Fuel Experimentation

AUTHOR: LI Shusheng [2621 2885 3932]
YAN Chang [0917 2512]

ORG: Both of Changchun Research Institute of Motor Vehicles

TITLE: "Methanol-Petrol Blended Fuel for Motor Vehicles"

SOURCE: Changchun QICHE JISHU [AUTOMOBILE TECHNOLOGY] in Chinese No 4, 83
pp 37-39

ABSTRACT: In 1981, China had 2,000,000 motor vehicles, of which 80 percent were trucks and of all the trucks 90 percent used gasoline for fuel. As China is a coal-rich country, it is entirely feasible to use methanol as a substitute. As a matter of fact, many provinces, cities, regions, and units have been researching on the subject in the past 2 years. Three methods of using methanol are being experimented: (1) Place methanol and gasoline in separate containers to be mixed in a controlled ratio in the carburetor; (2) Mix methanol and gasoline mechanically in a given ratio before pouring into the gas tank; (3) Add methanol to gasoline in a given ratio with certain flux present in the blend. The first method is adopted by Jilin Industrial University, Jilin Chemical Industry Company, Taiyuan Xinhua Chemical Plant, etc; the 2nd by Changchun Research Institute of Motor Vehicles, Beijing Research Institute of Motor Vehicles, Beijing Experimental Chemistry Plant, Research Institute of Engineering Thermophysics, etc. It was reported at a related symposium called by State's Science Committee on 21 Sep 82 that when the methanol content is less than 20 percent, the density of the pollutants is within the level of the State's standard. There are signs of melting and expansion of some nonmetallic parts and the mixed fuel is slightly corrosive to aluminum, steel, and other metals.

6168

CSO: 4009/187

Machine Tools

AUTHOR: ZHANG Xiong [4545 3674]

ORG: None

TITLE: "Modular Machine Tool Technology and Economic Union Held the Fifth Work Conference"

SOURCE: Dalian ZUHE JICHUANG [MODULAR MACHINE TOOL] in Chinese No 4, 83 inside frontcover

ABSTRACT: The 5th Work Conference of the Modular Machine Tool Technology and Economic Union was held in Dalian on 19-25 Mar 83 and attended by leaders of Beijing Machine Tool Plant No 3, Dalian Machine Tool Plant No 2, Jilin Modular Machine Tool Plant, and 8 other plants. Shanghai Machine Tool Plant No 10 requested permission to be absent. In the opening speeches, the Director of Bureau of Machine Tools of Ministry of Machine Industry and the Chairman of Dalian Municipal Science Committee stressed the heavy responsibility of the machine tool industry of providing the equipment for China's modernization construction. It was reiterated that by 1990 the technologies of the developed countries of the world of the late 70's and the early 80's must be popularized in China. The delegates all agreed that in the 3 years since its establishment the Union has adjusted the direction and expanded the realm of service of the industry on the basis of marketplace studies to meet the needs, especially, for the development of transportation, textile, and energy industries. The obviously positive results thus gained have reinforced the determination and faith of everyone. The Union also has received enthusiastic encouragement from State's Science Committee and other related ministries, bureaus, provinces, and cities. Aside from holding annual work conferences, it was decided that one or two special subject meetings should be held every year in the future to discuss planning, technologies, information, or other concrete subjects and problems.

6248

CSO: 4009/179

AUTHOR: WANG Jiangang [3769 1017 0474]

ORG: Changzhou Municipal Bureau of Metrology

TITLE: "Experimental Manufacture of Internal Aperture Rockwell Hardness Meter Succeeds and Is Being Produced in Batches"

SOURCE: Beijing JILIANG JISHU [MEASUREMENT TECHNIQUE] in Chinese No 3, 18 May 83 inside backcover

ABSTRACT: With the assistance and support of related scientific research units, the Dongfeng Metrological Instrument Plant of Wuda County, Jiangsu Province has succeeded in making the HD₁-150A Internal Aperture Rockwell Hardness Meter which has undergone certification by the National Certification Conference. This hardness meter is suitable mainly for heavy machinery, national defense armaments, petrochemical industry machines, etc. to test the hardness of internal holes of parts and test machines. It is made in accordance with the theory and design of the Rockwell hardness test method, using a conical diamond of $\alpha = 120^\circ \pm 30'$. It is easily portable and may be brought to the production site or outdoor engineering site to test an entire machine or its parts. The test aperture is 55-200 mm and the precision is $\pm 2\text{HRC}$.

AUTHOR: XIA Huiying [1115 1979 5391]

ORG: None

TITLE: "Technical Certification Conference for the Lateral Sensitivity Calibration Apparatus Held in Beijing"

SOURCE: Beijing JILIANG JISHU [MEASUREMENT TECHNIQUE] in Chinese No 3, 18 May 83 inside backcover

ABSTRACT: In late Nov 80, the 625 Institute of Academy of Space Technology called a technical certification conference in Beijing for the lateral sensitivity calibration apparatus. It was attended by representatives of 22 units. The representative of the 625 Institute introduced the subject matter and the technical properties of the apparatus before proceeding with on-site experiment and operation. Following deliberation, it was agreed that the precision of the apparatus is high; when the frequency is 30Hz and the lateral sensitivity ratio of the accelerometer meter is equal to or greater than 2 percent, its calibration precision is ± 8 percent, reaching the advanced level of devices of the same objective made in foreign countries. Prolonged experimental use and checking have proved the apparatus to be reliable and stable.

6248
CSO: 4009/185

AUTHOR: ZHANG Guangan [4545 0342 1344]
TANG Qisheng [0781 0366 3932]
XU Yuzhu [1776 3768 2691]

ORG: All of Research Institute of Bengang Steel

TITLE: "Study on the Properties of Bengang Pig Iron"

SOURCE: Beijing GANGTIE [IRON AND STEEL] in Chinese No 3, Mar 83 pp 1-8

ABSTRACT: Although Bengang [Benxihe Steel Mill of Liaoning Province] pig iron has had a production history of 67 years, its reputation of being low in phosphorus and sulfur does not describe all its merits. A survey of the opinions of user-factories indicates that its superiority rests basically in its good nodulizing property. This paper reports a study of the authors for the purpose of determining its properties and the true reason for its superiority. The Pb, Bi, Sn, Sb, As, Co, V, Cr, Se, Zn B, Al, Cu, Ti, Ni, Mo, and ΣT of pig irons produced in Sweden, the USSR, Japan, W. Germany [the so-called high-purity iron], etc. are compared with the contents of Bengang products to disclose the fact that ΣT of Benxi [same as Bengang] pig iron is less than 0.08 percent, at or under the lower limits of all high-purity pigs in the world. Results of studies comparing the C, Si, Mn, P, and S contents, the mechanical properties, and metal phase structure of foreign, domestic, and Benxi produced pigs are also reported.

AUTHOR: None

ORG: None

TITLE: "Symposium of Specialists of Steel and Iron Industry Technological Reform Held in Wuhan"

SOURCE: Beijing GANGTIE [IRON AND STEEL] in Chinese No 3, Mar 83 p 78

ABSTRACT: The Symposium of Specialists of Steel and Iron Industry Technological Reform, jointly organized by China Society of Metals and the Steel and Iron Metallurgy Group of the State's Science Committee, was held on 23-29 Dec 82 in Wuhan Steel and Iron Company and attended by 81 related specialists and leaders of metallurgical bureaus and enterprises. The chief task of the symposium is to contribute plans and strategies for the creation of a new phase of socialist construction on the basis of the realities of China's iron and steel industries. Representatives of Wuhan, Anshan, Shoudu [Capital], Dayan, Hangzhou, Iron and Steel Companies, et al introduced respective schemes, opinions, and attempts for technological reform. Delegate of Shanghai Future Society introduced a forecast for the steel and iron industry in Shanghai. Several specialists and professors offered some valuable problems for consideration with regard to the conditions of the aforementioned units and regions. All present acknowledged the symposium to be a highly democratic gathering of specialists of all aspects of the steel and iron industry to scrutinize together the future of the industry in the next decade or to the end of this century.

AUTHOR: DONG Xinye [5576 9515 2814]

ORG: None

TITLE: "The Third Symposium on Drill Steel Technology"

SOURCE: Beijing GANGTIE [IRON AND STEEL] in Chinese No 4, Apr 83 p 78

ABSTRACT: The Third Symposium on Drill Steel Technology was held in the middle of Dec 82 at Kunming [Yunnan Province] Tuanshan Steel Mill. It was jointly organized by the Drill Steel Group of Steel Rolling Technology Committee China Society of Metals and the Drill Steel Information Network. Participants included 74 delegates of 40 research units, schools of higher education, factories, and mines. Six of them are specialists and professors. Twenty-two papers were read, discussing respectively the state of art of producing drill steel, fracture mechanics, the work load spectrum of drill rods, fatigue fracture mechanism, etc. The delegation picked 5 papers to be the superior ones, reaching or close to the international advanced level. The phenomenon of weight-bearing of the drill rod, the quality of drill steel, new techniques of producing drill steel, energy saving measures, and cost reduction measures offered in these 5 papers were regarded to be valuable in guiding the production and application of drill steel. During the discussions, the spirit of technological democracy prevailed and all presented their own opinions. It was resolved that the next symposium on drill steel will be held in 1985.

AUTHOR: None

ORG: None

TITLE: "Symposium on X-ray Diffraction Technique Held by China Society of Metals and China Society of Physics"

SOURCE: Beijing GANGTIE [IRON AND STEEL] in Chinese No 4, Apr 83 pp 78, 63

ABSTRACT: An X-ray Diffraction Technique Symposium was jointly held by China Society of Metals and China Society of Physics on 15-20 Dec 82 in Shanghai and attended by 272 delegates of 153 units. Specialists, such as XU Shunsheng [6079 7311 3932] HE Jiawen [0149 1367 2429] et al were invited to give comprehensive reports on advances in the various branches in x-ray diffraction and neutron diffraction. The symposium received 170 papers and 70 of these were delivered in separate groups of the symposium. The contents of these papers included theoretical, experimental, or application of observation of defects of crystals, determination of structure of noncrystalline state materials, EXAFS, phase structure determination, quantitative phase analysis, linear analysis, macrostress determination, neutron diffraction, etc. During the symposium period, there was also an exhibition of x-ray diffraction instruments made in China; products of 12 factories were displayed.

6248

CSO: 4009/177

AUTHOR: LI Feng [7812 7364]

ORG: None

TITLE: "First National Symposium on Solid State Optics"

SOURCE: Shanghai GUANGXUE XUEBAO [ACTA OPTICA SINICA] in Chinese No 3, May 83
p 215

ABSTRACT: The First National Symposium on Solid State Optics, organized by China Society of Physics, was held from 30 Nov to 3 Dec 82 in Nanjing City of Jiangsu Province, and attended by 80 delegates of 12 schools of higher education and 11 research units of 11 provinces (cities) of the country. The opening speech was delivered by TANG Dingyuan [3282 1353 0337] of the Technical Physics Institute of the Chinese Academy of Sciences, and 67 papers were read before the two groups of the symposium. Prof Fang Junxin [2455 0193 9515] of Shanghai Jiaotong University reported on Solid-state Light Scattering and Solid-state Element Stimulation. Contents of the other papers involve light scattering phenomenon, spectral characteristics of absorption, reflection, double refraction, luminescence and fluorescence, and chromatic dispersion, magnetic light effect, and nonlinear optical phenomenon, etc. Targets of research included various semiconductors, noncrystalline materials, glass, crystals, luminescent materials, magnetic materials, etc. These papers indicate that solid-state optics in China is still a new subject. Although a good beginning is established, there remains some distance from the advanced level of foreign countries in the depth and breadth of research. All agreed that it is necessary to keep the field as a special subject. The Research Institute of Semiconductors Chinese Academy of Sciences was entrusted with the work of preparing for the 2nd National Symposium to be held in 1984.

AUTHOR: YI Min [0044 3046]
TAN Xianxiang [6223 7359 4382]

ORG: None

TITLE: "Third National Symposium on High-Speed Photography and Photonics Held"

SOURCE: Shanghai GUANGXUE XUEBAO [ACTA OPTICA SINICA] in Chinese No 3, May 83
pp 241, 247

ABSTRACT: The 3rd National Symposium on High-Speed Photography and Photonics, organized by China Society of Optics, was held in Leshan of Sichuan Province on 25-30 Nov 82 and attended by 240 delegates representing 92 units of 16 systems of 18 provinces (cities.) In the opening speech, Prof GONG Zutong [7895 4371 0681] said that judging from the current condition of development in high-speed photography, high-speed camera has given way because its speed is too low to meet the requirements of resolution in such ultrashort duration as picosecond, nanosecond, etc. The future belongs to photoelectric or image converter tube photography. A total of 8 papers were delivered and discussed on the subjects of medium to low speed camera and its data processing and application technology, image converter tube, x-ray photography, high-speed television, laser technology, holographic photography, interference, negative image photography, etc. It appeared that intermittent high-speed camera, 16mm prism compensating camera, drum camera, rotary lens camera, image converter tube camera are all being made experimentally in China.

6248

CSO: 4009/186

Printing Technology

AUTHOR: None

ORG: None

TITLE: "Joint Conference of Directors of Stations of the National Printing Industry Science and Technology Information Network Held in Sui [Guangzhou]"

SOURCE: Beijing YINSHA JISHU [PRINTING TECHNOLOGY] in Chinese No 5, 83 p 46

ABSTRACT: A joint conference of station directors with a learning class of the National Printing Industry Science and Technology Information Network was held in Guangzhou on 5-11 Apr 83 and attended by directors of 22 provinces, cities, and autonomous regions where network stations had been established and representatives of China Printing Technology Association, China Printing Company, China Printing Materials Company, Beijing Printing Academy, Research Institute of Printing Science and Technology, and Chinese People's Bank. The speech of WU Heng [2976 5899] at the 2nd Annual Conference of the Society of Science and Technology Information on the Service of Science and Technology Information Work to Economic Prosperity was communicated; the work condition and experience of central and local information stations were introduced. The Trial Method of Evaluating and Commending Results of Information Work was discussed and approved and an Evaluation and Selection Committee elected. The work of compiling and writing basic materials of printing science and the publication of the periodical were discussed and some key subjects were divided among related units while the various provinces, cities, and autonomous regions were to take up the responsibility of writing the materials of their respective regions and systems.

6248

CSO: 4009/182

Quality Control

AUTHOR: None

ORG: None

TITLE: "Symposium of the Quality Guaranteeing System Called by National Defense Science and Engineering Committee"

SOURCE: Beijing ZHONGGUO ZHILIANG GUANLI [QUALITY CONTROL IN CHINA] in Chinese No 5, 20 May 83 p 35

ABSTRACT: For the purpose of moving the work of total quality control forward to a new phase, the National Defense Science and Engineering Committee called a symposium of the quality-guaranteeing system of its subordinate industries in Baotou City in late Apr. The work method and experience of the quality-guaranteeing system of the various plants constituted the major subjects of discussion. Seven units, including Nei Menggu Machine Manufacturing Plant No 1, etc. introduced experiences. An exhibition was organized by that plant for the delegates of the symposium to observe its quality-guaranteeing system, its quality inspection system, and its technology system. In the year or so since the quality-guaranteeing system was established, the rate of qualified products during the first trial has risen everyday while technological coordination has been better, product improvement accelerated, and technological reserves increased. A relationship of mutual support and mutual encouragement between the assembly plant and the coordinating plants has begun to take form to create a favorable situation for the coordinating parts to promote the excellence of the entire machine. After the tour, the delegates agreed that the experiences of the plant No 1 and the other units should be studied and extended.

6248

CSO: 4009/188

Standardization

AUTHOR: None

ORG: None

TITLE: "Memorandum Issued by First Secretary of Provincial Committee and the Governor of Heilongjiang Province on the Need for Stressing Standardization Work"

SOURCE: Beijing BIAOZHUNHUA TONGXUN [STANDARDIZATION NEWSLETTER] in Chinese No 4, Apr 83 p 10

ABSTRACT: Leaders of the Heilongjiang Provincial Committee attached extreme importance to the directive of the State Council and the accompanied report of the State's Bureau of Standards concerning strengthening standardization work. YANG Yichen [2799 2496 6591] issued a memorandum, saying that strengthening standardization and establishing a quality inspection and surveillance network appear to be tasks of fundamental importance. He asked all related sectors to learn and study in order to offer opinions relating to standardization. This work should be combined with the work of technological reform and quality improvement... The governor of the Province, CHEN Lei [7115 7191] also circulated a concrete directive demanding the standardization work in Heilongjiang Province to be "in the forefront of the entire nation."

AUTHOR: MA Baoyun [7456 1405 0061]

ORG: None

TITLE: "Symposium on the Adoption of International Standards Held in Heilongjiang Province"

SOURCE: Beijing BIAOZHUNHUA TONGXUN [STANDARDIZATION NEWSLETTER] in Chinese No 4, Apr 83 p 26

ABSTRACT: Called by Heilongjiang Provincial Bureau of Standards and Metrological Management, a Symposium on the Adoption of International Standards was held on 18-19 Jan 83 and attended by related comrades of provincial departments (bureaus). Important pronouncements of leaders of the State Council regarding strengthening standardization work and adopting international standards were communicated to the participants of the symposium and related documents and experiences were also passed on to them. The Research Institute of the Provincial Bureau of Machines introduced the advanced experience of Jiamusi Electrical Machinery Plant in adopting international standards and the good economic benefits gained. Actual conditions of the various industries in Heilongjiang were used as the foundation to analyze and study international and advanced standards of foreign countries for the purpose of enacting a preliminary plan to adopt these standards. It was proposed that such standards should first be adopted to machine and electrical industries and to 3 categories of products (export, superior grade, and mass-produced products.)

AUTHOR: YE Bolin [0673 2672 2651]
CHEN Zhitian [7115 1807 3944]

ORG: None

TITLE: "A National Symposium on the Economic Benefits of Standardization Held in Beijing"

SOURCE: Beijing BIAOZHUNHUA TONGXUN [STANDARDIZATION NEWSLETTER] in Chinese No 4, Apr 83 p 26

ABSTRACT: A National Symposium on the Economic Benefit of Standardization was held in early Jan 83 in Beijing and participated in by 140 persons, including representatives of more than 50 enterprises, related units of Chinese Academy of Social Sciences, related bureaus of the State's Economic Committee, and some news agencies of the capital. The symposium was called jointly by the State's Bureau of Standards and China Association of Technology and Economic Research. The director of the Bureau of Standards, CHEN Chuanhui [4453 0278 6540] delivered the opening speech. China's famous economist, YU Guangyuan [0060 0342 6678] was invited to report on standardization and the improvement of national economic benefits. The participants approved unanimously a national standard of THE PRINCIPLE OF EVALUATING ECONOMIC BENEFIT OF STANDARDIZATION AND THE METHOD OF COMPUTING IT. Many representatives expressed eagerness to return to their home bases to devote themselves to this task and to make many contributions.

6248

CSO: 4009/176

Vehicle Standardization

AUTHOR: LI Anding [2621 1344 1353]

ORG: Reporter, New China News Agency

TITLE: "The Motor Vehicle Industry Will Enact Standards on the Basis of International Standards This Year"

SOURCE: Beijing BIAOZHUNHUA TONGXUN [STANDARDIZATION JOURNAL] in Chinese No 5, May 83 backcover

ABSTRACT: The General Manager of China Motor Vehicle Industry Company, LI Gang [2621 6921] announced at the Company's 2nd Board of Directors Meeting on 20 Feb that the industry will arrange this year to issue standards for 244 items, involving the test regulations, test methods, and property quality inspection indices for the entire car, the engine, and the transmission system of trucks, cross-country vehicles, sedans, buses, dump trucks, etc. International standards will be positively used as the reference to proceed with enacting all these standards. He said the 170 volumes of ISO Standards, European Common Market (EEC) Regulations, Japanese (JIS) Standards that are related to motor vehicle industry will be translated and published this year to be used as references. He added this year 15 new standards for testing engine reliability, exhaust, noise, military vehicles, oil consumption, etc. will be issued and adopted for all models of motor vehicles made in China. In this manner, the properties and quality of motor vehicles and major accessories made in China will approach the levels of same types of products made in foreign countries.

6168

CSO: 4009/189

END