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中国の水事情

前JICA中国事務所長 松沢憲夫氏の講演

(2001年3月28日 日中科学・産業技術交流機構 中国セミナーより)

中国の水問題は、今後の中国経済発展に大きなウエイトを占め、経済協力の分野でも水関連への協力が大きな課題となることが予測される。

水の絶対量不足と気候変動により生態系が破壊されており、砂漠化防止の各種努力にも関わらず90年代を通じて毎年約2,460km²（神奈川県面積に相当）が砂漠化している。

2000年4月に国際貿易促進事業団代表団との会見で、鄧楠（科学技術部副部長《鄧小平の次女》）は「中国の水問題は、経済発展のボトルネックになりかねない」とコメントしている。

1. 現状

中国の人口増加と都市化の進展、工業の急速な発展に加えて農業用水の合理化（有効利用）が進まない中で、水資源の需要と供給の矛盾が顕在化しており、水不足による危機が拡大している。

- ・全国平均降水量：660mm（日本の4割）
- ・水資源保有量：2兆8,000億m³→世界第4位

- ・一人当たりの水資源量：2,300m³/年→世界一人当たり平均の1/4
→世界13貧水国の一つ（水不足の基準は2,000m³、1,000m³を割ると生存のための基本的需要を下回る）
- ・31省・自治区の中で16省・自治区が一人当たり2,000m³を下回り、6省・自治区（寧夏、河北、河南、山東、山西、江蘇）で500m³を下回っている。
- ・2030～2050年に人口16億人（予測）→一人当たり平均1,755m³（現在の3/4に減少）
- ・降水の4/5は南部（耕地の2/3は北部：耕地単位当たりの水量は南部の1/8以下で、国土面積の60%を占める北部の水資源は全国の水資源賦存量の20%にも及ばない深刻な旱魃地域となっている）
- ・降雨の時期：夏の4ヶ月間に約70%（南方で60%、北方で80%）→水資源の2/3が洪水として流失。

2. 黄河の断流 (もともと水量は揚子江の1/10)

- ・水量は年々減少: 50年代年間推計流水量830m³

90年代	580m ³
現在	470m ³
- ・最初の断流発生 1972年
 - 85年から毎年発生
 - 95年 122日、96年 136日
 - 97年 282日(一日中渤海に水が流れ、こんどのは5日間)
 - 98年 142日、99年40数日(上流ダムの放流調整)
- ・上流の森林破覆率: 青島0.4%、甘肅4.3%、寧夏1.5%、山西8.1%
- ・水土流失: 毎年16億トン(利根川で戦後50年間に浚渫された量が3億トン、揚子江でこの15年間に浚渫された量が3億トン、16億トンを縦横1mに積み上げれば地球を27周する長さに匹敵) 現在山東省の農業は危機に瀕している。

3. 地下水位の低下 (中国農業大学の報告)

- ・中国で穀物の約40%を生産している華北平原のほとんどの地域で、この5年間に地下水位が1.5m低下している。
- ・北京市: 地盤沈下が始まっている(激しいところで0.6m)。
- ・天津市: 地盤沈下が始まっている(激しいところで2.6m)。
- ・黄土高原: 井戸水が枯渇

4. 今後の水需要(予測)

- ・ワールドワッチ研究所の予測

1995~2030年までの経済成長率を年平均5%と仮定

農業用水	は4,000億トン→6,600億トン
工業用水	は 520億トン→2,690億トン
生活用水	は 310億トン→1,340億トン

計10,630億トンで現在の2.2倍が必要。
- ・中国水理部の予測

人口のピークは2050年で、この時の農業用4,200

億トン、工業用3,000トン、生活用800億トン計8,000億トン。

- ・1トンの小麦生産に必要な水の量=1,000トン(小麦1トンの価格約1,400元=18,200円)
- ・同じ水量を工業生産に使用すれば70倍の生産性あり
- ・毎年数百万人の失業者を出しながら、一方で約1,400万人の新規労働人口に職を与える必要がある。→農業部門は工業部門に勝ち目が無い。

5. 食糧問題

- ・97年から穀物の生産が過剰になり始めた。98・99年には生産量が5億トン→供給過剰: 国務院による穀物減産指示。
- ・1998年(IA予測): 2025年には水不足による穀物の生産力と需要のギャップにより、1億7,000万トンの穀物輸入が必要(予測の当否はともかく、2030~2050年頃には数千万トン単位の穀物が不足→輸入)。
- ・2000年春の数十年ぶりの早魃→西北部の大部分、華北の大部分、黄河・淮河流域において5~8割の減産。年間を通じて10%の減産。
- ・退耕還林(生態系保護のため25度以上の傾斜地の耕作を放棄: 対象面積600万ha)のほか、生産性の高い地域での工業化・都市化による耕地面積の減少が農業生産の大幅な減少に影響(傾斜地の耕作を止め、林業に代える)。

6. 汚染

- ・水理部報告(1998年)

全国の工業及び都市部の汚水総排水量は593億トン

工業廃水	69%
生活廃水	31%

内排水基準に達しているものの23%
- ・FAO報告: 「中国の主要河川の80%が汚染のため、魚が住めない状態である」としている。
- ・水汚染による疾病: 公式報告はないが、貴州省貴陽市校外では水俣病に似た有機水銀中毒患者の存在が確認されている。

- ・貴州省、内蒙古自治区及び新疆ウイグル自治区は地下水の砒素・フッ素汚染地域で、それぞれの中毒患者の存在が大きな社会問題となっている。

7. 水不足対策

(1) 節水の必要性

- ・農業（年間約4,000億トン）の有効利用係数：0.3~0.4%
- ・工業（生産額1万元当たり）：103m³（日本6m³、米9m³で先進国の10~20倍）（これは主に施設の老朽化による）

(2) 南水北調（建国以来の懸案）

（南の水：長江「揚子江」の水を水の枯渇している。北の水：黄河の流域に運搬すること）

- ・1999年6月水利部に南水北調司が新設された（これには天文学的な経費がかかる）。

ルートは①揚子江と黄河の源流を結ぶ西ルート、②揚子江の支流漢江と北京・天津を結ぶ中央ルート（現実性が高い）、③江蘇省と天津を結ぶ東ルート。

課題は①黄河を含む200以上の河川を跨ぐか潜る必要がある。

①漢江から北京までの落差はわずか100mしかない。

- ・膨大な資金を必要とすることから、以下の意見も出ている。

①水資源の効率的な使用を目的とした他のプロジェクトに資金を回すべき。

②水は生産性の高い工業用に回し、穀物はすべて輸入に任せる（年間2,000万トンの穀物輸入で約200億トンの水が節約できる）。

日本はこの20年間に2,000億元を超えるODAを供與（円借款で植林事業、污水处理場施設、浄水場施設建設等、無償供与資金協力で植林事業、上下水道施設建設、日中友好環境保全センタープロジェクト等を実施し、また中国の緑化事業を支援するための小淵基金の設立）し、環境・水利関係を含む協力を行ってきた。今後とも日本の豊富な経験と人材を生かし、中国の水問題を地球的規模の課題としてこれまで以上に協力を強化していく必要がある。

中国科学院傘下の研究所一覧(その1)

この資料は中国科学院の1996年の資料によったが、2001年の資料により修正した。

BEIJING AREA

北京地区

北京天文台

Beijing Astronomical Observatory

No. 20A, Datun Road, Chaoyang District, Beijing

100012

Tel:86-10-6488708 Fax:86-10-64888731

radio astronomy, solar physics and astrometry

軟件（ソフトウェア）工学センター

Software Engineering Centre

No. 4, 4th South Street, Zhongguancun, P. O. Box 2719 Beijing 100080

Tel:86-10-62629958 Fax:86-10-62560341

management information system, system software (OS, compiler, DBMS etc.) CASE environment and tools, graphics and image processing, CAD/CAM, network systems, office automation, POS, Chinese character processing, artificial intelligence and expert system, industrial automatic control and monitoring, information service

宇宙科学及び応用センター

Centre for Space Science and Applied Research

No. 1 2nd South Street, Zhongguancun, Haidian

District, Beijing 100080

Tel:86-10-62560947 Fax:86-10-62576921

space physics, space environment research, monitoring and forecasting, spacecraft and space utilization system engineering, Onboard electronics and data management systems, space exploration technology, microware remote sensing and telecommunication technology, suborbital spacecraft overall design, sounding rockets and scientific balloons, and ground receiving, processing and applied research

自然資源総合考察委員会

Commission for Integrated Survey of Natural Resources

P. O. Box 9717, 3 Datun Road, Beijing 100101

Tel:(010)6491 3580 Fax:(010)6491 4230

sustainable use of natural resources, regional planning for sustainable development, ecosystem analysis and management, remote sensing and GIS application

コンピューターネットワーク情報センター

Computer Network Information Centre

No. 4 4th South Street, Zhongguancun, Haidian District, Beijing 100080

Tel:86-10-62559377 Fax:86-10-62560928

research and development of computer network, network application and service, comprehensive multi-disiplinary scientific database, its application and service, and network engineering and development of network software

物理及び化学・工学研究所

Technical Institute of Physics and Chemistry

No. 3 Datun Road, Beijing 100101

Tel:86-10-64879375 Fax:86-10-64879375

This Institute was founded in 1999, on the basis of the former Institute of Photographic Chemistry,

Cryogenic Laboratory as well as some relevant departments of the Institute of Chemistry etc. Taking physics and chemistry as its academic basis, it is mainly engaged in the technological innovation and development. It conducts research projects which have important bearings in the national economy and with potentials of commercialization and transfer of science and technology results.

声学研究所 (音響研究所)

Institute of Acoustics

No. 17 Zhongguancun Road, Haidian, Beijing

100080

Tel:86-10-62644116 Fax:86-10-62553898

underwater acoustics, marine acoustics equipment, environmental acoustics, electroacoustics, acoustics of speech, atmospheric acoustics, geoacoustics, ultrasonics for evaluation, energy saving by ultrasonic methods, medical ultrasonics, power ultrasonics, hypersonics, ultrasonic electronics, acoustic transducers and materials, non-linear acoustics, acoustic signal processing, computational acoustics, digital signal processing, digital system integration, and acoustic standards and metrology.

数学・システム科学研究院

Academy of Mathematics and Systems Science

No. 1 A, 4th South Street, Zhongguancun, Haidian District, Beijing 100080

Tel:86-10-62553063 Fax:86-10-62541829

This Academy was established in 1998, based on four institutes: Institute of Mathematics, Institute of Applied Mathematics, Institute of Systems Science and Institute of Computational Mathematics and Scientific/Engineering Computing.

This is the national comprehensive research centre of mathematics and systems science. The research scope of the Academy covers various subjects of pure mathematics, applied mathematics,

computational mathematics and systems science. It includes analysis, number theory, algebra, geometry and topology, geometric analysis, differential equations, probability and statistics, mathematics mechanization, theoretical computer science, computational mathematics, operations research, control theory, systems management, discrete mathematics, scientific and engineering computing.

大气物理研究所

Institute of Atmospheric Physics
40 Huayanli, Chaoyang District, Beijing 100029
Tel:86-10-62057555 Fax:86-10-62028606
climate system dynamics and climate prediction theory, global change, meso-scale meteorology and now-casting, acid rain and air pollution, middle atmosphere, atmospheric chemistry, geophysical fluid dynamics, cloud physics, radiation and remote sensing, natural disasters, climate and environmental cybernetics, and medium-range weather prediction.

自动化研究所

Institute of Automation
1, 1st South Street, Zhongguancun, Haidian District, Beijing 100080
Tel:86-10-62545671 Fax:86-10-62551993
pattern recognition, computer vision, speech recognition, medical image processing, multimedia database, complex system modelling, discrete event dynamic systems, sensor-based robotics, algorithms for real-time computing, expert systems, giant intelligent systems, character recognition, neural networks, etc.

生物物理研究所

Institute of Biophysics
No. 15 Datun Road, Chaoyang, Beijing 100101
Tel:86-10-64889894 Fax:86-10-64871293
studies at molecular levels on the structure and

function of enzymes, proteins and biomembranes, X-ray structure analyses, function relationship and engineering of proteins, gene expression and mutagenesis, rational molecular design, DNA sequence information analyses, sensory information processing and its molecular and cellular neurobiology, cell reformation, and cell communication and interaction between cells and environments.

植物学研究所

Institute of Botany
No. 20 Nanxincun, Xiangshan, Haidian, Beijing 100093
Tel:86-10-62591431 Fax:86-10-62590833
systematic and evolutionary botany, plant ecology and information ecology, plant photosynthetic metabolism, plant developmental and reproductive biology, and resource biology.

化学处理工学研究所

Institute of Process Engineering
No. 1 2nd North Street, Zhongguancun, Beijing 100080
Tel:86-10-62554241 Fax:86-10-62561822
metallurgical processes, multiphase reaction, separation science and engineering, biochemical engineering, materials chemical engineering, computer chemistry, resource, energy and environmental chemical engineering.

化学研究所

Institute of Chemistry
No. 2 1st North Street, Zhongguancun, Haidian District, Beijing 100080
Tel:86-10-62554626 Fax:86-10-62559373
physical chemistry including molecular dynamics, structural chemistry, organic solids, chemical thermodynamics, non-silver photographic science and organic information recording materials, polymer

physics, and tical chemistry, and organic science including polymer chemistry and polymer chemistry including physical organic chemistry and synthetic organic chemistry. Institute of Photographic Chemistry was merged to this Institute in 1999.

計算機工学研究所

Institute of Computing Technology

No. 6 Kexueyuan South Road, Zhongguancun, Haidan, Beijing 100080

Tel:86-10-62560911 Fax:86-10-62567724

computer systems, automation of digital systems design, computer architecture, power supply, database and memory technology, magnetic recording technology, computer packaging techniques, development and application of microprocessors, computer networks, large integrated circuits, LIC measurement techniques, digital image processors, pattern information processing, artificial intelligence devices, software for large-scale computers, development of large computers, computer application, and personnel training.

发育生物学研究所

Institute of Developmental Biology

3 Nanyitiao, Zhongguancun, Beijing 100080

Tel:(010)6255 1951 Fax:(010)6255 1951

studies on molecular mechanism of fertilisation in mammals and plants, developmental potentials of animal embryonic and somatic cell nuclei, the roles of mRNA on animal early development, cell differentiation and pattern formation, and transgenic research on animals and plants.

電気工学研究所

Institute of Electrical Engineering

No. 6 2nd North Street, Zhongguancun, Haidian, Beijing 100080

Tel:86-10-62551665 Fax:86-10-62560904

MHD power generation, superconducting electrical engineering techniques, electric machines, new energy sources, digital control techniques and computer application, permanent-magnet application techniques, electromagnetic field theories, high voltage impulse discharge techniques, and microfabrication techniques.

電子工学研究所

Institute of Electronics

No. 17 Zhongguancun Road, Haidian, Beijing 100080

Tel:86-10-62554605 Fax:86-10-62567363

electromagnetics, information science, rader engineering and millimetre wave, lasers, and sensor devices and technology.

工業熱物理研究所

Institute of Engineering Thermophysics

No. 12 B, Zhongguancun Road P. O. Box 2706, Beijing 100080

Tel:86-10-62573330 Fax:86-10-62575913

engineering thermodynamics, internal aerothermodynamics, combustion, heat and mass transfer, measuring techniques in thermodynamics, total energy system analysis, advanced combined cycle, turbomachinery aerothermodynamics, CFD of 3D and viscous flows, design improvement of turbines and compressors, flow instability and control in compression system. energy saving and noise reduction in blowers and pumps, clean coal technology, circulating fluidized bed combustion boiler, efficient and low pollutant combustor, microgravity combustion, municipal wasteminisation and utilisation, alternative fuel engine for automobiles, multiphase heat and mass transfer, heat pipes, enforced heat transfer, high performance heat exchangers, rapid transit heat transfer, and multi-stage fluidized bed dryers.

遺伝学研究所

Institute of Genetics

Bldg. 917, Datun Road, Chaoyang District, Beijing
100101

Tel:86-10-64856610 Fax:86-10-64854896

molecular genetics, animal and human populational genetics, plant Somatic genetics, male sterility in plant, plant biotechnology breeding, plant genetics manipulation, plant cell and chromosomal engineering, and plant biotechnology.

地理学及び天然資源研究所

Institute of Geographical Sciences and Natural Resources Research

No. 3 A, Datun Road, Chaoyang District, Beijing
100101

Tel:86-10-64889276 Fax:86-10-64881844

physical geography and human geography, global environmental change and its impacts, ecological and physico-geographical process, resources and regional planning and development, and geographical information system and mapping.

地質・地球物理研究所

Institute of Geology and Geophysics

P. O. Box 9825 Beijing 100029

Tel:86-10-62008001 Fax:86-10-62010846

This institute was established in 1999 by merging the former Institute of Geology and Institute of Geophysics, both of which were founded in 1950.

The institute focuses its research activities on understanding the interaction of the lithosphere, biosphere, atmosphere and hydrosphere of the Earth system, and issues concerning resources, environment and geo-engineering. The major task of this institute is to promote the synthesis of geology, geophysics and geochemistry, and to study the physical, chemical and biological processes occurring

in the core, mantle, crust and surface of the Earth, as well as the interfaces among them. This Institute is also aimed to address issues related to natural resources (petroleum, metallic and non-metallic deposit, ground water etc.) earth environment, natural hazards, sustainable development and geo-engineering.

高エネルギー物理研究所

Institute of High Energy Physics

No. 19 Yuquan Road, Shijingshan District, Beijing
100039

Tel:86-10-68219643 Fax:86-10-68213374

high energy physics, theory of particle physics, mid/high energy nuclear physics, accelerator theory and technology, accelerator application, cosmic ray physics, high energy astrophysics, detector and electronics, application of nuclear technology, application of synchrotron radiation, computing physics, and dose monitor and radiation protection.

自然科学史研究所

Institute of History of Natural Sciences

No. 137 Chao Nei Street, Beijing 100010

Tel:86-10-64043989 Fax:86-10-64017637

general history of science and technology, history of astronomy, mathematics, physics, chemistry, biology, geology, modern sciences and technology, and history of technology.

機械学研究所

Institute of Mechanics

No. 15 Zhongguancun Road, Haidian Beijing 100080

Tel:86-10-62560914 Fax:86-10-62561284

non-linear mechanics, aerodynamics and aerophysics, microgravity fluid dynamics, explosion mechanics, and technology, applied mechanics, applied solid mechanics, soil mechanics, computational mechanics, magnetohydrodynamics, plasma science and

technology, physical mechanics, laser-fluid physics, mechanics of materials processing, mechanics of offshore engineering, mechanical properties of materials, combustion science and technology, and biomechanics.

微生物学研究所

Institute of Microbiology

13 Beiyitiao, Zhongguancun P. O. Box 2714, Beijing 100080

Tel:86-10-62565880 Fax:86-10-62560912

bioresources and biodiversity (including culture collection, systematics screening for search of lead compounds and new metabolic products, ecology molecular virology), molecular genetics and breeding (including molecular genetics of prokaryotic cell, expression and regulation of gene, microbial breeding by recombinant DNA technique), and biotechnology (including innovation and commercialisation, plant genetic engineering, enzyme engineering, fermentation engineering, protein engineering, pharmaceutical biotechnology and glycotecology)

物理研究所

Institute of Physics

P. O. Box 603, Beijing 100080

Tel:86-10-82649361 Fax:86-10-82649531

basic and applied research on condensed matter physics and materials, optical physics, atomic and molecular physics, plasma physics, and theoretical physics.

心理学研究所

Institute of Psychology

10 A, Datun Road, Chaoyang District, P. O. Box 1603 Beijing 100101

Tel:86-10-64872071 Fax:86-10-64872070

developmental psychology, cognitive psychology, psychophysiology, medical psychology, basic theories

in psychology, and industrial psychology.

遠隔測定応用研究所

Institute of Remote Sensing Applications

P. O. Box 9718, Beijing 100101

Tel:86-10-64879458 Fax:86-10-64889570

theoretical research in remote sensing (RS) radiant characteristics, RS spatial characteristic, high spectral resolution RS, radar science, and global change RS, RS data acquisition techniques, digital image processing and geographic information system, renewable resources and eco-environment RS, and non-renewable resources and engineering environment RS.

科技政策と管理科学研究所

Institute of Policy and Management

No. 1 A, 4th South Street, Zhongguancun, Haidian District P. O. Box 8712 Beijing 100080

Tel:86-10-62555211 Fax:86-10-62542619

development of soft science with the integration of both natural science and social science, scientific theories, methodologies and application concerning S&T policy making process and management, consulting service for the macro decision-making process of the Chinese Government and relevant State authorities in the fields of science and technology, economic and social development, and for the reform and development of the country's scientific research organizations and enterprises.

半導体研究所

Institute of Semiconductors

P. O. Box 912, Beijing 100083

Tel:86-10-82304210 Fax:86-10-82305052

physics of semiconductor superlattices, III-V group compound materials and ultra-thin materials, research and engineering development of semiconductor opto-electronic devices and

integration technology, semiconductor microwave devices, super-high-speed devices, sensors and related integration technologies, fuzzy logic circuit, and artificial neural network.

軟体(ソフトウェア)研究所

Institute of Software

No. 4 4th South Street, Zhongguancun, Beijing 100080

Tel:86-10-62561881 Fax:86-10-62562533

fundamental mathematics, software engineering environment and tools, computer science theory, system software and programming language, computer network and ISDN communication, information security, database, graphic and image processing, multimedia technology, OA and MIS, and various types of application software.

理論物理研究所

Institute of Theoretical Physics

No. A1 4th South Street, Zhongguancun, Haidian District P. O. box 2735 Beijing 100080

Tel:86-10-62555058 Fax:86-10-62562587

particle physics, quantum field theory, gravitation and cosmology, theoretical astrophysics, mathematical physics, statistical physics, condensed matter physics, non-linear science, theoretical biophysics, computational physics, atomic and molecular physics, and nuclear physics.

脊椎動物と古代人類学研究所

Institute of Vertebrate Paleontology and Paleoanthropology

No. 142 Xizhimenwai Street, Beijing 100044

Tel:86-10-68354669 Fax:86-10-683370001

paleoichthyology, paleoherpetology, paleomammalogy, paleoanthropology, and Paleolithic archaeology.

動物学研究所

Institute of Zoology

19 Zhongguancun Road, Haidian, Beijing 100080

Tel:86-10-62553351 Fax:86-10-62565689

animal faunistics, systematics and evolution, ecology and behaviour, conservation biology, cell and molecular biology, endocrinology and reproductive biology, insect physiology, insect pheromones and ecology, insecticides, and toxicology.

微細電子研究開発センター

Microelectronics Research and Development Centre

No. 3 Beitucheng West Road, Chaoyang District, Beijing 100029

Tel:86-10-62359009 Fax:86-10-62021601

VLSI design, submicron processes and deep submicron devices, development of various kinds of ICs, semiconductor devices and sensors, services in designing, fabrication (CMOS, bipolar, BiCMOS and VDMOS) mask making, testing and packaging for ICs and devices.

中国遠隔操作人工衛星地上ステーション

China Remote Sensing Satellite Ground Station

45 West Beisanhuan Road, Haidian, Beijing 100086

Tel:86-10-62587019 Fax:86-10-62561215

receiving, processing, distribution and archiving Landsat-5, ERS-1/2 and JERS-1 earth resources satellite remote sensing data, and research and development on remote sensing technology and application.

生態環境科学研究センター

Research Centre for Eco-Environmental Sciences

No. 18 Shuangqing Road, Haidian, District, P. O. Box 2871, Beijing 100085

Tel:86-10-62923549 Fax:86-10-62623563

pollution control technology, biotechnology and converting technology of wastes to resources as well

as related fundamental research, environmental analytical chemistry and environmental pollution chemistry, theories and methods of applied ecology and sustainable development, environmental impact assessment and environmental planning.

ANHUI AREA

安徽省地区

安徽光学精密机械研究所

Anhui Institute of Optics and Fine Mechanics

No. 350 Shushanhu Road, Hefei 230031, Anhui

Tel:86-551-5591539 Fax:86-551-5591572

atmospheric optics and laser transmission through atmosphere, laser and photoelectronic techniques and their application, laser environmental, detection, environmental remote sensing techniques, and laser spectroscopy.

合肥知能机械研究所

Hefei Institute of Intelligent Machines

P. O. Box 1130, Hefei 230031, Anhui

Tel:86-551-5591136 Fax:86-551-5592420

research on novel sensing elements, transducer and sensor systems such as pressure sensors used in silicon strain gauge or thick film elements, gas sensors, humidity sensors, signal acquisition and measurement as well as pattern recognition, artificial intelligence which includes image processing, machine vision, expert systems, robotics, etc.

プラズマ物理研究所

Institute of Plasma Physics

P. O. Box 1126, Hefei 230031, Anhui

Tel:86-551-5591601 Fax:86-551-5591310

high temperature plasma physics, especially Tokamak plasma physics, controlled nuclear fusion, development of related fusion and plasma technologies for industry and agriculture.

固体物理研究所

Institute of Solid State Physics

P. O. Box 1129, Hefei 230031, Anhui

Tel:86-551-5591415 Fax:86-551-5591434

experimental and theoretical condensed matter physics, internal friction and defects in solids, nanometer-scale science and technology, systems of thin films and interface physics, theoretical calculation on electronic structure, preparation, structure and properties of advanced functional materials.

HUIJIAN AREA

福建地区

福建物质构造研究所

Fujian Institute of Research on the Structure of Matter

No. 155 Yanggiao West Road, Fuzhou 350002,

Fujian

Tel:86-591-3714517 Fax:86-591-3714946

structural chemistry, materials science of new technological crystals, applied chemistry, metal corrosion and protection.

GANSU AREA

甘肃地区

近代物理研究所

Institute of Modern Physics

No. 363 Nanchang Road, Lanzhou 730000, Gansu

Tel:86-931-8274940 Fax:86-931-8272100

synthesis and study of new nuclides far from stability and nuclear structure, heavy ion collisions and properties of hot nuclei at low and intermediate energy domain, and application of heavy ion beams and nuclear techniques.

兰州化学物理研究所

Lanzhou Institute of Chemical Physics

No. 342 Tianshui Road, Lanzhou 730000, Gansu

Tel:86-931-827791 Fax:86-931-8277088

catalysis, solid lubricating materials, organic synthetic chemistry, and analytical and structural chemistry.

蘭州地質研究所

Lanzhou Institute of Geology
No. 324 Donggang West Road, Chengguan District
Lanzhou 730000, Gansu
Tel:86-931-8277981 Fax:86-931-8278667
sedimentology, geochemistry, elements, tectonic geology, palaeontology, and geological information.

寒冷地乾燥地環境工学研究所

Cold and Arid Regions Environmental and Engineering Research Institute
No. 260 Donggang West Road, Lanzhou 730000
Gansu
Tel:86-931-8275129 Fax:86-931-8273894

This Institute is a new institute formed in 1999, by the former three institutes, Lanzhou Institute of Desert Research, Lanzhou Institute of Glaciology and Geocryology and Lanzhou Institute of Plateau Atmospheric Physics. The researches of the Institute are focussed on the following aspects as cryosphere and global change, frozen soil and cold regions engineering, desert and desertification, plateau atmospheric physics, waterland resources, restoration ecology and agriculture and so on. The research emphases of cryosphere and global change are put on the alpine glaciers, ice sheets(ice core), cold regions environment and global change; and glacier resource and its dynamic monitoring. Those of frozen soil and cold regions engineering are put on the permafrost physics and cold regions engineering; freezing-thawing processes and its control. Desert and desertification are on the eolian sand physics; wind-erosion mechanism of soil; desertification processes; desertification harnessing. Plateau atmospheric physics are on the plateau

climatology and environmental dynamics; arid climatology; thunder lightning physics and the mechanism of its resulting hazards.

GUANDONG AREA

広東地区

広州化学研究所

Guangzhou Institute of Chemistry
Tianhe Leyiju, Guangzhou 510650, Guangdong
Tel:86-20-85231295 Fax:86-20-85231119
macromolecule materials and science, and organic chemistry of natural products.

広州電子技術研究所

Guangzhou Institute of Electronic Technology
No. 100 Xianlie Road, Guangzhou, 510070,
Guangdong
Tel:86-20-87775947 Fax:86-20-87753247
key techniques of ISDN-LAN, ASIC-CAD, information processing techniques, basic research on computer application and its key techniques, automation system and its application, and intelligent building techniques.

広州能源(エネルギー)研究所

Guangzhou Institute of Energy Conversion
No. 81 Xianlie Zhong Road, Guangzhou, 510070,
Guangdong
Tel:86-20-87778642 Fax:86-20-87779767
renewable energy (solar energy biomass energy, thermal energy, ocean energy), efficient use of industrial thermal energy, waste heat recovery, energy saving material, clean burning of industrial fuels, and energy conversion and storage technology.

広州地質新技術(地質化学)研究所

Guangzhou Institute of Geochemistry
Wushan, Tianhe District, Guangzhou 510640,
Guangdong
Tel:86-20-85290702 Fax:86-20-85290130

modern geochemistry and mineralogy, organic geochemistry, isotope geochemistry, economic geology, mineralogy and materials, Quaternary geochemistry and global new changes, elementary geochemistry, environmental organic geochemistry, regional sustainable development and oceanic geochemistry.

広州人工衛星観測所

Guangzhou Satellite Observation Station

Wushan, Guangzhou 510640, Guangdong

Tel:(020)8770 7002

man-made satellite observation, theoretical research of satellite motion, technological development of certain kinds of electronic apparatus and automatic control of industrial production.

華南植物研究所

South China Institute of Botany

Leyiju, Tianhe District, Guangzhou 510650,

Guangdong

Tel:86-20-87705626 Fax:86-20-87701031

plant taxonomy, plant morphology and anatomy, plant physiology and biochemistry, plant ecology, plant genetics, plant resources, and phytochemistry.

南海海洋研究所

South China Sea Institute of Oceanology

No. 164 Xingang West Road, Guangzhou 510301,

Guandong

Tel:86-20-84451335 Fax:86-20-84451672

marine physics and physical oceanography, marine chemistry, marine biology, marine geology and geophysics, environmental protection, marine surveying, marine remote sensing, and other high-tech projects.

第68回理事会議事録

日時:2001年3月22日(木)

場所:一ツ橋学会館311号室 13:30~16:00

出席者:会長 菅野昌義 顧問 伏見康治

副会長 有山正孝 理事 鈴木伸 t 土屋喜一

他 委任状提出者:18名

1. 前回議事録確認
2. 次回以降の日中科技シンポジウムについて
3. 会計状況について
4. 賛助会員の現状について
5. その他 会長から4月7日に行われる清華大学創立90周年を記念する清華大学日本校友会主催の「中日産学協力シンポジウム」に協賛することが提案され、承認された。

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