SB
93/94

CS FOR SB 93 (HESS) - BILL ANALYSIS

CHANGED TITLE TO ELIMINATE RESTRICTING THE ENDOWED CHAIR TO THE PHYSICAL SCIENCES AT THE U OF A AT FAIRBANKS.

SECTION 1 Establishes program of endowments at U of A to be funded through "appropriations for the purpose, gifts and other sources"

(b) Board of Regents may appoint persons from one or more disciplines(not limited to the Physical Sciences)

(b) (1) rearranged the need to read "teaching, study and research" and (2) advanced study.

Introduced: 1/31/83
Referred: Health, Education and Social Services and Finance

IN THE SENATE BY BENNETT

SENATE BILL NO. 93

IN THE LEGISLATURE OF THE STATE OF ALASKA

THIRTEENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act establishing a program of endowments ~~for the physical sciences~~ at the University of Alaska; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 14.40 is amended by adding a new section to read:

Sec. 14.40.282. ENDOWMENT FOR THE PHYSICAL SCIENCES. (a) The Board of Regents shall establish an endowment program within the limits of ~~for the physical sciences at the University of Alaska campus in Fairbanks~~ appropriated funds and other resources therefrom, gifts and other sources. The endowment shall be managed as a perpetual trust. The income of the endowment shall be used to pay the salary and related expenses of the person appointed under (b) of this section for research, teaching, ~~and~~ advanced studies and research ~~in one or more physical science disciplines~~.

(b) The Board of Regents shall appoint a person individuals or persons who ~~is distinguished in one or more physical science disciplines~~ to be paid from the endowment ~~for the physical sciences~~. The tenure and the duties of the appointee shall be established by the Board of Regents based on the need for

(1) teaching, research, ~~and studies~~ in physical sciences areas of special interest in the state; and studies and

(2) advancement of ~~scientific~~ study at the University of Alaska.

* Sec. 2. This Act takes effect July 1, 1983.

March 11, 1983

SB 93-94
(endowed chair UAF)

Joe, Peggy, Vic

Claus Naske - Assoc. Profess. UAF

U in Under 48 have had endowed chairs established by private industry.

UAF has never established in physical sciences, reason for proposal for that discipline. Would be up to Bd. of Regents to select person to sit in chair.

Vic Why not have chair open to other disciplines?

Geophysical Institute & Marine Sciences are well regarded nationally.

Vic Akasofu is already at the U. - has had minimal influence outside of the U. Not adequately Emphasized Teaching at U more than research.

Naske My suggestion, since Akasofu is only likely candidate for Nobel Laureate. Bd. of Regents would chose candidate Akasofu gets no state funds but from Nat'l Science Foundation. The staff are primarily researchers - $20 million in fed. funds.

Moss How many endowed chairs?

Claus None

Joe Is it customary to have legislatures

SB93-94
(2)

endow Chairs?

Claus No, usually a wealthy family or a private corporation. Usually the donor makes the choice of discipline. Would like to see many endowed chairs to bring new ideas/people to Alaska.

Vic Bill says Bd. of Regents will establish endowment at UAF.
What about lack of funds.
Say Bd. of Regents may est. endowments at University of Alaska
Broaden scope in Alaska for the enabling legislation

Vic will support if not restricted to phys. ed.

Introduced: 1/31/83
Referred: Health, Education and Social Services and Finance

IN THE SENATE BY BENNETT

SENATE BILL NO. 93

IN THE LEGISLATURE OF THE STATE OF ALASKA

THIRTEENTH LEGISLATURE - FIRST SESSION

A BILL

For an Act entitled: "An Act establishing an endowment for the physical sciences at the University of Alaska; and providing for an effective date."

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:

* Section 1. AS 14.40 is amended by adding a new section to read:

Sec. 14.40.282. ENDOWMENT FOR THE PHYSICAL SCIENCES. (a) The Board of Regents may establish a program for endowments to manage up to 5 gifts, trusts, grants, income & other gifts for the physical sciences at the University of Alaska ~~campus in Fairbanks~~. The endowment shall be managed as a perpetual trust. The income of the endowment shall be used to pay the salary and related expenses of the person appointed under (b) of this section for research, teaching, advanced studies and research in one or more ~~physical science~~ disciplines.

(b) The Board of Regents shall appoint a person who ~~is distinguished in one or more~~ physical science disciplines to be paid from the endowment for the physical sciences. The tenure and the duties of the appointee shall be established by the Board of Regents based on the need for

(1) teaching, adv. studies and research in physical sciences of special interest in the state; and

(2) advancement of scientific study at the University of Alaska.

* Sec. 2. This Act takes effect July 1, 1983.

# A PROPOSAL TO ESTABLISH AN ENDOWED CHAIR FOR THE PHYSICAL SCIENCES AT THE UNIVERSITY OF ALASKA IN FAIRBANKS.

Submitted by Claus-M. Naske,
Assoc. Prof., History
Thomas Osterkamp
Professor, Physics

March, 1981

## Background

Since medieval times, wealthy patrons, mercantile organizations, and governments have endowed chairs in Universities. The procedures were always very simple. A designated University received a lump sum of money which was then put into a trust fund and invested. The interest from the trust then was used to pay the salary and other emoluments of the chair's occupant. The principal was never touched.

Endowed chairs spanned the spectrum of academic and professional disciplines, from physics to the humanities, and from medicine to architecture and law. In most cases, Universities used endowed chairs to hold or attract top talent. The majority of American Universities have endowed chairs, although they are more numerous on the east than the west coast. The University of Alaska does not have an endowed chair. Now there is an opportunity for the Alaska Legislature to establish an endowed chair.

## Cost

It is assumed that full costing for an endowed chair will be through the auspices of an endowment under which the principal of the fund would be invested in perpetuity and that earnings on the investment would be used to cover required annual costs. It is also assumed that, on the average, about 10% would be earned on the invested principal. In years when more than this was earned, additional earnings would be added to the principal to increase it so that earnings in subsequent years would increase with inflation. Under these assumptions, it would require a principal of $1.3 million to establish an endowed chair.

Annual earnings from the fund would be required as follows:

| | |
|---|---|
| Annual salary | $75,000 |
| Staff benefits (approximately 20% of salary requirement) | $15,000 |
| Support services<br>Secretarial/Assistant salaries plus staff benefits | $25,000 |
| Support costs<br>Travel, supplies & operating costs | $15,000 |
| ANNUAL COST REQUIREMENT | $130,000 |

Justification

Specifically, there is one scientist at the University of Alaska, Fairbanks, who should be honored by an endowed chair. He might occupy the chair until his retirement. After that, other top scientists might be honored by being invited to occupy the chair for varying length of time.

Professor Syun-Ichi Akasofu has done more than any other scientist to build up and maintain the worldreknowned reputation of the Geophysical Institute as a center of research and scholarly excellence in the field of space science.

Professor Akasofu is preeminent in the field of auroral studies coupled with geomagnetism. He has authored or coauthored nearly 400 scientific articles, and authored or coauthored five books on solar terrestrial relations, the aurora, and geomagnetism, and edited another, and also written two definitive encyclopedic articles on the aurora.

His achievements have been justly recognized by the scientific community at large, and he has been the editor or on the editorial board of five well-

established journals dealing with geophysic and space sciences. He has been accorded several honors, given only to those whose contributions to geophysics and science in general have been outstanding. These are:

The Chapman Medal of the Royal Astronomical Society of England in 1976;

The Japan Academy Medal in 1977;

The Fleming Medal from the American Geophysical Union in 1979.

Professor Akasofu also was elected a Fellow of the American Geophysical Union and named Distinguished Alumnus of the University of Alaska, Fairbanks, where he received the Ph.D. in 1961.

Conclusion

An endowed chair would free Professor Akasofu from proposal writing and enable him to materially aid the efforts of his younger colleagues. It would also make it possible for him to become a highly effective spokesman for Alaska Science, and also make it possible for him to attract other, highly talented and dedicated scientists to the state. His activities already have brought great prestige to the State of Alaska and its University. In later years, other top scientists would occupy the endowed chair.

Sherman Carter
Executive Vice President

UNIVERSITY OF ALASKA
FAIRBANKS ALASKA 99701

February 13, 1981

MEMORANDUM FOR PROFESSOR CLAUS NASKE

FROM: Sherman Carter

SUBJECT: Cost of endowing an academic "chair"

This paper is to comply with your request that I indicate to you how much money it would cost to endow an academic "chair."

Various assumptions were made in preparing the cost estimates provided below. One of these was that the person selected would be a world-class scientist--cost, of course, would be less for other types of faculty positions. Secondly, it is assumed that full costing for filling the position would be by an endowment under which the principal of the fund would be invested in perpetuity and that earnings on the investment would be used to cover required annual costs. Thirdly, it is assumed that, on the average, about 10% would be earned on the invested principal. In years when more than this was earned, additional earnings would be added to the principal to increase it so that earnings in subsequent years would increase with inflation.

Initially, $1.3 million would be required for the endowment fund.

Annual earnings from the fund would be required approximately as follows:

| | |
|---|---|
| Annual salary | $75,000 |
| Staff benefits (approximately 20% of salary requirement) | 15,000 |
| Support services<br>Secretarial/Assistant salaries plus staff benefits | 25,000 |
| Support costs<br>Travel, supplies & operating costs | 15,000 |
| ANNUAL COST REQUIREMENT: | $130,000 |

SFC:sb

Note: 10/28/81 President Barton indicated that a substantially smaller appropriation would support the annual cost requirement.

April 2, 1981

Senator Bettye Fahrenkamp
Pouch V
Juneau, AK 99811

Dear Senator Fahrenkamp:

This letter is in support of a proposal to establish an endowed chair for physical sciences at the University of Alaska with Professor Akasofu as its first recipient. The reasons for establishing such a chair are numerous but include holding or attracting extremely talented persons, financial, and academic ones. An endowed chair makes it possiole for the recipient to concentrate on his research program and gives him ~~23~~ 2-3 months extra time to spend on research and on generating funds for support of other researchers. Professor Akasofu has obtained about $1,000,000 per year for 10 years. This can be compared to the cost of an endowed chair which is a one-time expenditure of ≈ $1.3 million.

The most compelling reason for creating an endowed chair is the tremendous boost it would give to the quality of the academic and research programs at the University of Alaska. It is a fact that "excellence promotes excellence". The people occupying an endowed chair can be expected to attract top-level co-workers and also to stimulate others already at the University of Alaska.

Anything you can do to help in this matter is deeply appreciated.

Sincerely,

T. E. Osterkamp
Professor of Physics & Geophysics

TEO/sgf

STATE OF ALASKA

ALASKA COMMISSION ON POSTSECONDARY EDUCATION

JAY S. HAMMOND, GOVERNOR

POUCH F—STATE OFFICE BUILDING
JUNEAU, ALASKA 99811
PHONE: (907) 465-2854

SB 488

ENDOWED CHAIRS

1. The earnings from an endowed chair usually provide an individual faculty member with the financial support and flexibility to explore new teaching methods, to formulate and test new theories and to disseminate his findings. By enhancing support for research and teaching, endowed chairs enable a university to attract and retain distinguished scholars.

2. The existence of an endowed chair in a particular discipline creates a nucleus for attracting other distinguished faculty and students, enhancing the quality of the department and, over time, the reputation of the university as a whole.

3. All of the great universities in the nation have endowed chairs. U.C.L.A. has 14 endowed chairs alone.

4. The endowed chairs can be in disciplines from which research will provide tangible benefits to the Alaskan citizenry (e.g., fisheries biology, geology, etc.)

5. An endowed chair usually provides the salary and benefits of the professor. Moreover, the income from an endowed chair may be used for the hiring of a secretary or assistant to handle routine matters (thereby freeing the professor to spend more time for students and research) or to provide research assistantships to students under the direct supervision of the professor.

PERSONAL DATA

NAME: Syun-Ichi Akasofu

DATE OF BIRTH: December 4, 1930

PLACE OF BIRTH: Nagano-ken, Japan

EDUCATION:

B.S. Geophysics, Tohoku University, Sendai, Japan, 1953.
M.S. Geophysics, Tohoku University, Sendai, Japan, 1957.
Ph.D. Geophysics, University of Alaska, Fairbanks, Alaska, 1961.

EXPERIENCE:

Senior Research Assistant, Nagasaki University, Nagasaki, Japan, 1953-1955.
Research Assistant in Geophysics, Geophysical Institute, University of Alaska, Fairbanks, Alaska 1958-1961.
Assistant Research Geophysicist, Geophysical Institute, 1961-1962.
Associate Professor of Geophysics, Geophysical Institute, 1962-1964.
Professor of Geophysics, Geophysical Institute, 1964-present.

Associate Editor, Journal of Geophysical Research, 1972-1974.
Associate Editor, Journal of Geomagnetism & Geoelectricity, 1972-present.
Editorial Advisory Board, Planetary Space Science, 1969-present.
Editorial Advisory Board, Space Science Reviews, 1967-1977.
Member, Editorial Committee, Space Science Reviews, 1977-present.

PROFESSIONAL ORGANIZATIONS:

American Geophysical Union
Society of Terrestrial Magnetism and Electricity of Japan
International Union of Geomagnetism and Aeronomy
Inter-Union Commission on Solar-Terrestrial Physics
Sigma Xi Society
American Association for the Advancement of Science

AWARDS AND HONORS:

The Chapman Medal from the Royal Astronomical Society of England, January 1976.
The Japan Academy Award, March 1977.
Fellow of the American Geophysical Union, 1977.
John Adam Fleming Medal, American Geophysical Union, 1979.
Distinguished Alumnus for 1980, University of Alaska.

PUBLICATIONS:

Published Articles

Akasofu, S.-I., On the geomagnetic micropulsations, Rep. Ionosphere Res. Japan, 10, 227, 1956.

Kato, Y. and S.-I. Akasofu, Relationships between the geomagnetic micropulsation and the solar UM region, J. Atmos. Terr. Phys., 9, 352, 1956.

Akasofu, S.-I., The helicoidal structures in the cosmical electrodynamics, Särtryck ur Tellus, 4, 409, 1958.

Akasofu, S.-I., Magneto-hydrodynamic waves in the ionosphere, J. Atmos. Terr. Phys., 15, 156, 1959.

Akasofu, S.-I., The ring current and the outer atmosphere, J. Geophys. Res., 65, 535, 1960.

Akasofu, S.-I., On the ionospheric heating by hydromagnetic waves connected with geomagnetic micropulsations, J. Atmos. Terr. Phys., 18, 160, 1960.

Akasofu, S.-I., Large-scale auroral motions and polar magnetic disturbances--I: A polar disturbance at about 1100 hours on 23 September 1957, J. Atmos. Terr. Phys., 19, 10, 1960.

Akasofu, S.-I. and S. Chapman, Some features of the magnetic storms of July 1959, and tentative interpretations, UGGI Monograph, 7, 93, 1960.

Akasofu, S.-I., Some examples of the aurora borealis, (colour photographs), Weather, 16, 112, 1961.

Akasofu, S.-I., Thickness of an active auroral curtain, J. Atmos. Terr. Phys., 21, 287, 1961.

Akasofu, S.-I., J. C. Cain and S. Chapman, The magnetic field of a model radiation belt, numerically computed, J. Geophys. Res., 66, 4013, 1961.

Akasofu, S.-I. and S. Chapman, Magnetic storms: Their geometrical and physical analysis and their classification. 12. Particular magnetic storms, Studia Geoph. et Geod., 5, 30, 1961.

Akasofu, S.-I. and S. Chapman, A neutral line discharge theory of the aurora polaris, Phil. Trans. Roy. Soc., London A., 253, 359, 1961.

Akasofu, S.-I. and S. Chapman, The ring current geomagnetic disturbance, and the Van Allen radiation belts, J. Geophys. Res., 66, 1321, 1961.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I. and S. Chapman, New theory of the aurora polaris, Am. Rocket Soc. J., 31, 775, 1961.

Akasofu, S.-I., The magnetic storm of September 13, 1957, Geomagnetica, 149, 1962.

Akasofu, S.-I., Large-scale auroral motions and polar magnetic disturbances--II: The changing distribution of the aurora during large magnetic storms, J. Atmos. Terr. Phys., 24, 723, 1962.

Akasofu, S.-I., On a self-consistent calculation of the ring current field, J. Geophys. Res., 67, 3617, 1962.

Akasofu, S.-I. and J. C. Cain, The magnetic field of the radiation belts, J. Geophys. Res., 67, 4078, 1962.

Akasofu, S.-I., J. C. Cain and S. Chapman, The magnetic field of the quiet-time proton belt, J. Geophys. Res., 67, 2645, 1962.

Akasofu, S.-I. and S. Chapman, Large-scale auroral motions and polar magnetic disturbances--III: The aurora and magnetic storm of 11 February 1958, J. Atmos. Terr. Phys., 24, 785, 1962.

Akasofu, S.-I. and S. Chapman, A large change in the distribution of the auroras during the 11 February 1958 magnetic storm, J. Atmos. Terr. Phys., 24, 740, 1962.

Akasofu, S.-I. and S. Chapman, The ring current and neutral line discharge theory of the aurora polaris, J. Phys. Soc. Japan, 17, Suppl. A-I, 169, 1962.

Arnoldy, R. L., R. A. Hoffman, J. R. Winckler and S.-I. Akasofu, Observations of the Van Allen radiation regions during August and September 1959. 6. Visual auroras, high-altitude x-ray bursts, and simultaneous satellite observations, J. Geophys. Res., 67, 3673, 1962.

Akasofu, S.-I., Solar flares and the aurora, Astronomical Society of the Pacific, Leaflet No. 414, December 1963.

Akasofu, S.-I., The auroral rays, J. Atmos. Terr. Phys., 25, 163, 1963.

Akasofu, S.-I., The dynamical morphology of the aurora polaris, J. Geophys. Res., 68, 1667, 1963 (condensed version).

Akasofu, S.-I., The dynamical morphology of the aurora polaris, Annals of the IGY, Vol. XX, Part III, 311, 1963.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., Deformation of the magnetic shells during magnetic storms, J. Geophys. Res., 68, 4437, 1963.

Akasofu, S.-I., The main phase of magnetic storms and the ring current, Space Sci. Rev., 2, 91, 1963.

Akasofu, S.-I., The development of the main phase of magnetic storms, J. Geophys. Res., 68, 125, 1963.

Akasofu, S.-I. and S. Chapman, The enhancement of the equatorial electrojet during polar magnetic substorms, J. Geophys. Res., 68, 2375, 1963.

Akasofu, S.-I. and S. Chapman, The lower limit of latitude (U.S. sector) of northern quiet auroral arcs and its relation to Dst (H), J. Atmos. Terr. Phys., 25, 9, 1963.

Akasofu, S.-I. and S. Chapman, Magnetic storms: The simultaneous development of the main phase (DR) and of polar magnetic substorms (DP), J. Geophys. Res., 68, 3155, 1963.

Akasofu, S.-I., S. Chapman and D. Venkatesan, The main phase of great magnetic storms, J. Geophys. Res., 68, 3345, 1963.

Akasofu, S.-I. and W. C. Lin, The magnetic moment of model ring current belts and the cutoff rigidity of solar protons, J. Geophys. Res., 68, 973, 1963.

Akasofu, S.-I., W. C. Lin and J. A. Van Allen, The anomalous entry of low-rigidity solar cosmic rays into the geomagnetic field, J. Geophys. Res., 68, 5327, 1963.

Rees, M. H. and S.-I. Akasofu, On the association between subvisual red arcs and the Dst (H) decrease, Planet. Space Sci., 11, 105, 1963.

Wescott, E. M., R. N. DeWitt and S.-I. Akasofu, The $S_q$ variation at geomagnetically conjugate areas, J. Geophys. Res., 68, 6377, 1963.

Akasofu, S.-I., The development of the auroral substorm , Planet. Space Sci., 12, 273, 1964.

Akasofu, S.-I., The development of geomagnetic storms after a negative sudden impulse, Planet. Space Sci., 12, 573, 1964.

Akasofu, S.-I., The latitudinal shift of the auroral belt, J. Atmos. Terr. Phys., 26, 1167, 1974.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., A source of the energy for geomagnetic storms and auroras, Planet. Space Sci., 12, 801, 1964.

Akasofu, S.-I., The neutral hydrogen flux in the solar plasma flow--I. Planet. Space Sci., 12, 905, 1964.

Akasofu, S.-I. and S. Chapman, On the asymmetric development of magnetic storm fields in low and middle latitudes, Planet. Space Sci., 12, 607, 1964.

Akasofu, S.-I. and D. S. Kimball, The dynamics of the aurora--I: Instabilities of the aurora, J. Atmos. Terr. Phys., 26, 205, 1964.

Chapman, S. and S.-I. Akasofu, The aurora, Res. in Geophys., Vol. 1, 367, ed. by H. Odishaw, The M.I.T. Press, Cambridge, Mass., 1964.

DeWitt, R. N. and S.-I. Akasofu, Dynamo action in the ionosphere and motions of the magnetospheric plasma. I. Symmetric dynamo action, Planet. Space Sci., 12, 1147, 1964.

Akasofu, S.-I., Dynamical morphology of auroras, Space Sci. Rev., 4, 498, 1965.

Akasofu, S.-I., The development of geomagnetic storms without a preceding enhancement of the solar plasma pressure, Planet. Space Sci., 13, 297, 1965.

Akasofu, S.-I., Attenuation of hydromagnetic waves in the ionosphere, Radio Science, 69D, 361, 1965.

Akasofu, S.-I., The aurora, Scientific American, 213, 54, 1965.

Akasofu, S.-I., S. Chapman and C.-I. Meng, The polar electrojet, J. Atmos. Terr. Phys., 27, 1275, 1965.

Akasofu, S.-I. and R. N. DeWitt, Dynamo action in the ionosphere and motions of the magnetospheric plasma. III. The Pedersen conductivity generalized to take account of acceleration of the neutral gas, Planet. Space Sci., 13, 737, 1965.

Akasofu, S.-I. and D. S. Kimball, Auroral morphology as shown by all-sky photographs (Arctic and Antarctic), Annals of IGY, Vol. XXXVIII, 1, 1965.

Akasofu, S.-I., D. S. Kimball and C.-I. Meng, The dynamics of the aurora--II: Westward traveling surges, J. Atmos. Terr. Phys., 27, 173, 1965.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., D. S. Kimball and C.-I. Meng, The dynamics of the aurora--III: Westward drifting loops, J. Atmos. Terr. Phys., 27, 139, 1965.

DeWitt, R. N. and S.-I. Akasofu, Dynamo action in the ionosphere and motions of the magnetospheric plasma. II. Deformation of the radiation belts due to the electrostatic field produced by ionospheric winds, Planet. Space Sci., 13, 729, 1965.

Haurwitz, M. W., S. Yoshida and S.-I. Akasofu, Interplanetary magnetic field asymmetries and their effects on polar cap absorption events and Forbush decreases, J. Geophys. Res., 70, 2977, 1965.

Stringer, W. J., A. E. Belon and S.-I. Akasofu, The latitude of auroral activity during periods of zero and very weak magnetic disturbance, J. Atmos. Terr. Phys., 27, 1039, 1965.

Yoshida, S. and S.-I. Akasofu, A study of the propagation of solar particles in interplanetary space: The center-limb effect of the magnitude of cosmic-ray storms and of geomagnetic storms, Planet. Space Sci., 13, 435, 1965.

Akasofu, S.-I., The development of geomagnetic and auroral storms, J. Geomag. Geoelec., 18, 109, 1966.

Akasofu, S.-I., The auroral oval, the auroral substorm and their relations with the internal structure of the magnetosphere, Planet. Space Sci., 14, 587, 1966.

Akasofu, S.-I., Electrodynamics of the magnetosphere: Geomagnetic storms, Space Sci. Rev., 6, 21, 1966.

Akasofu, S.-I., S. Chapman and A. B. Meinel, The aurora, Handbuch der Physik, Vol. XLIX/1, Geophysics III, 1, ed. by S. Flugge, Springer-Verlag, 1966.

Akasofu, S.-I., C.-I. Meng and D. S. Kimball, Dynamics of the aurora--IV: Polar magnetic substorms and westward traveling surges, J. Atmos. Terr. Phys., 28, 489, 1966.

Akasofu, S.-I., D. S. Kimball and C.-I. Meng, Dynamics of the aurora--V: Poleward motions, J. Atmos. Terr. Phys., 28, 497, 1966.

Akasofu, S.-I., C.-I. Meng and D. S. Kimball, Dynamics of the aurora--VI: Formation of patches and their eastward motion, J. Atmos. Terr. Phys., 28, 505, 1966.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., D. S. Kimball and C.-I. Meng, Dynamics of the aurora--VII: Equatorward motions and the multiplicity of auroral arcs, J. Atmos. Terr. Phys., 28, 627, 1966.

Akasofu, S.-I. and S. Yoshida, Growth and decay of the ring current and the polar electrojets, J. Geophys. Res., 71, 231, 1966.

Akasofu, S.-I. and S. Yoshida, Reply to K. D. Cole's "Discussion on paper by S.-I. Akasofu and S. Yoshida, Growth and Decay of the ring current and polar electrojets", J. Geophys. Res., 71, 4211, 1966.

Kendall, P. C., S. Chapman, S.-I. Akasofu and P. N. Swartztrauber, The computation of the magnetic field of any axisymmetric current distribution-with magnetospheric applications, Geophys. J. R. Astr. Soc., 11, 349, 1966.

Yoshida, S. and S.-I. Akasofu, The development of the Forbush decrease and the geomagnetic storm fields, Planet. Space Sci., 14, 979, 1966.

Akasofu, S.-I., Auroras, Trans. Amer. Geophys. Union, 48, 540, 1967.

Akasofu, S.-I., The auroral oval and the internal structure of the magnetosphere, Aurora and Airglow, 267, ed. by B. M. McCormack, Reinhold Pub. Corp., New York, 1967.

Akasofu, S.-I. and S. Chapman, The normality of the SD variation at Huancayo and the asymmetry of the main phase of geomagnetic storms, Planet. Space Sci., 15, 205, 1967.

Akasofu, S.-I. and S. Chapman, Corrections to papers concerning magnetic effects of model ring currents, J. Geophys. Res., 72, 445, 1967.

Akasofu, S.-I. and S. Chapman, A systematic shift of the DS axis, Planet. Space Sci., 15, 937, 1967.

Akasofu, S.-I., S. Chapman and P. C. Kendall, The significance of the multiple structure of the auroral arc, Aurora and Airglow, 281, ed. by B. M. McCormac, Reinhold Pub. Corp., New York, 1967.

Akasofu, S.-I. and C.-I. Meng, The abnormally early appearance of active auroras, J. Atmos. Terr. Phys., 29, 601, 1967.

Akasofu, S.-I. and C.-I. Meng, The abnormally early appearance of the eastward motion of auroras in the evening, J. Atmos. Terr. Phys., 29, 1029, 1967.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., S. Chapman and P.C. Kendall, The significance of the multiple structure of the auroral arc, Aurora and Airglow, 281, ed. by B.M. McCormac, Reinhold Pub. Corp., New York, 1967.

Akasofu, S.-I. and C.-I. Meng, Intense negative bays inside the auroral zone--I: The evening sector, J. Atmos. Terr. Phys., 29, 965, 1967.

Akasofu, S.-I. and C.-I. Meng, Auroral activity in the evening sector, J. Atmos. Terr. Phys., 29, 1015, 1967.

Akasofu, S.-I. and C.-I. Meng, Polar magnetic substorm in the evening sector, J. Atmos. Terr. Phys., 29, 1127, 1967.

Akasofu, S.-I. and S. Yoshida, The structure of the solar plasma flow generated by solar flares, Planet. Space Sci., 15, 39, 1967.

Akasofu, S.-I. and S. Yoshida, On the three dimensional structure of the solar plasma flow generated by solar flares, Planet. Space Sci., 15, 942, 1967.

Kawasaki, K. and S.-I. Akasofu, Polar solar daily geomagnetic variations on exceptionally quiet days, J. Geophys. Res., 72, 5363, 1967.

Meng, C.-I. and S.-I. Akasofu, Intense negative bays inside the auroral zone--II: Indented Positive bays, J. Atmos. Terr. Phys., 29, 1305, 1967.

Meng, C.-I. and S.-I. Akasofu, The geomagnetic storm of April 17-18, 1965, J. Geophys. Res., 72, 4905, 1967.

Akasofu, S.-I., Working Group IV-6, Geomagnetic storms and interpretation, IAGA Bulletin No. 25, Transactions of the XIV General Assembly, St. Gall, Switzerland, 1967. IUGG Publication Office, 39ter, Rue Gay-Lussoc, Paris (V).

Akasofu, S.-I., Auroral substorm and magnetospheric substorm, Space Research VIII, 213, North-Holland Pub. Co., Amsterdam, 1968.

Akasofu, S.-I., The growth of the storm-time radiation belt and the magnetospheric substorm, Geophys. J. R. Astro. Soc., 15, 7, 1968.

Akasofu, S.-I., The storm-time radiation belt, Earth's Particles and Fields, 295, ed. by B. M. McCormac, Reinhold Book Corp., New York, 1968.

Akasofu, S.-I., The magnetosphere and magnetospheric substorm, Ann. de Geophys., 24, 1, 1968.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., Auroral observations by the constant local time flight, Planet. Space Sci., 16, 1365, 1968.

Akasofu, S.-I. and S. Chapman, Geomagnetic storms and auroras, Physics of Geomagnetic Phenomena, Vol. 2, 1113, ed. by S. Matsushita and W. H. Campbell, Academic Press Inc., New York, 1968.

Akasofu, S.-I., D. S. Kimball and C.-I. Meng, Dynamics of the auroral and associated phenomena, Annals of IGY, Vol. XLV, 3, 1968.

Akasofu, S.-I. and C.-I. Meng, Low latitude negative bays, J. Atmos. Terr. Phys., 30, 227, 1968.

Meng, C.-I. and S.-I. Akasofu, Polar magnetic substorms in the conjugate areas, Radio Science, 3, 751, 1968.

Yoshida, S., S.-I. Akasofu and P. C. Kendall, Ring current effects on cosmic rays, J. Geophys. Res., 73, 3077, 1968.

Akasofu, S.-I., Magnetospheric substorm, Atmospheric Emissions, 267, ed. by B. M. McCormac and A. Omholt, Van Nostrand Reinhold Co., 1969.

Akasofu, S.-I., The aurora, Shizen, 24, 25, December 1969. (Japanese Journal)

Akasofu, S.-I., Magnetospheric substorm as a discharge process, Nature, 221, 1020, 1969.

Akasofu, S.-I., The ionosphere as the base of the magnetosphere, Annals of IQSY, Vol. 5, Solar-Terrestrial Physics: Terrestrial Aspects, 167, ed. by A. C. Strickland, The M.I.T. Press, 1969.

Akasofu, S.-I., Auroral observations at the South Pole, Antarctic Journal of the U.S., IV, 229, 1969.

Akasofu, S.-I., R. H. Eather and J. N. Bradbury, The absence of the hydrogen emission (Hβ) in the westward traveling surge, Planet. Space Sci., 17, 1409, 1969.

Akasofu, S.-I. and C.-I. Meng, A study of polar magnetic substorms J. Geophys. Res., 74, 293, 1969.

Akasofu, S.-I. and C.-I. Meng, Non-uniform growth of the ring current belt, Planet. Space Sci., 17, 707, 1969.

Akasofu, S.-I., P. Perreault and S. Yoshida, The geomagnetic and cosmic-ray storm of May 25-26, 1967, Solar Physics, 8, 464, 1969.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I. and J. M. Wilcox, Soviet geomagnetism, aeronomy and solar-terrestrial physics, EOS, International Geophysics, 50, 709, 1969.

Buchau, J., J. A. Whalen and S.-I. Akasofu, Airborne observation of the midday aurora, J. Atmos. Terr. Phys., 31, 1021, 1969.

Eather, R. H. and S.-I. Akasofu, Characteristics of polar cap auroras, J. Geophys. Res., 74, 4794, 1969.

Gowell, R. W. and S.-I. Akasofu, Irregular pulsations of the morning sky brightness, Planet. Space Sci., 17, 289, 1969.

Harang, L. and S.-I. Akasofu, Low latitude v.l.f. emissions and polar substorms, J. Atmos. Terr. Phys., 31, 1445, 1969.

Kendall, P. C., D. W. Windle, S.-I. Akasofu and S. Chapman, A model midnight meridian magnetospheric field, Geophys. J. R. Astr. Soc., 17, 185, 1969.

Meng, C.-I. and S.-I. Akasofu, A study of polar magnetic substorms. 2. Three-dimensional current system, J. Geophys. Res., 74, 4035, 1969.

Akasofu, S.-I., C.-I. Meng and S. Chapman, On the causes of the day-to-day variability of the intensity of the equatorial electrojet, Proceedings of the Third International Symposium on Equatorial Aeronomy, Vol. 2, 213, Ahmedabad, India, 1969.

Akasofu, S.-I., D. S. Kimball and C.-I. Meng, The auroral and polar magnetic substorms over Alaska, Annals of IGY, Vol. XLV, 315, 1969.

Akasofu, S.-I., In Memoriam Sydney Chapman, Space Sci. Review, 11, 599, 1970.

Akasofu, S.-I., A model current system for the magnetospheric substorm, Particles and Fields in the Magnetosphere, 17, 34, ed. by B. M. McCormac, D. Reidel Pub. Co., Dordrecht-Holland, 1970.

Akasofu, S.-I., IQSY Data Review: Geomagnetism, Annals of IQSY, 6, Survey of IQSY: Observations and Bibliography, 51, ed. by A. C. Strickland, The M.I.T. Press, 1970.

Akasofu, S.-I., Diagnostics of the magnetosphere using geomagnetic, auroral and airglow phenomena, Ann. de Geophys., 26, 443, 1970.

PUBLISHED ARTICLES (Cont'd)

Hones, E. W. Jr., S.-I. Akasofu, P. Perreault, S. J. Bame and S. Singer, Poleward expansion of the auroral oval and associated phenomena in the magnetotail during auroral substorms--1. J. Geophys. Res., 75, 7060, 1970.

Buchau, J., J. A. Whalen and S.-I. Akasofu, On the continuity of the auroral oval, J. Geophys. Res., 75, 7147, 1970.

Meng, C.-I., S.-I. Akasofu and E. W. Hones Jr., Simultaneous observations of an energetic electron event in the magnetotail by the Vela 3A and IMP 3 satellites--1. J. Geophys. Res., 75, 7294, 1970.

Akasofu, S.-I., E. W. Hones Jr. and C.-I. Meng, Simultaneous observations of an energetic electron event in the magnetotail by the Vela 3A and IMP 3 satellites--2. J. Geophys. Res., 75, 7296, 1970.

Akasofu, S.-I., C. R. Wilson, L. Snyder and P. Perreault, Results from a meridian chain of observatories in the Alaskan sector--1. Planet. Space Sci., 19, 477, 1971.

Kawasaki, K. and S.-I. Akasofu, The low latitude DS component of the geomagnetic storm field, J. Geophys. Res., 76, 2396, 1971.

Kawasaki, K. and S.-I. Akasofu, The computed distribution of geomagnetic disturbance vectors for model three-dimensional current systems, Planet. Space Sci., 19, 543, 1971.

Hones, E. W. Jr. and S.-I. Akasofu, Poleward expansion of the auroral oval and associated phenomena in the magnetotail during auroral substorms--2. J. Geophys. Res., 76, 8241, 1971.

Hones, E. W. Jr., R. H. Karas, L. J. Lanzerotti, S.-I. Akasofu, S. J. Bame and S. Singer, Magnetospheric substorms on September 14, 1968, J. Geophys. Res., 76, 6765, 1971.

Akasofu, S.-I., E. W. Hones Jr., M. D. Montgomery, S. J. Bame and S. Singer, Association of magnetotail phenomena with visible auroral features, J. Geophys. Res., 76, 5985, 1971.

Kawasaki, K., S.-I. Akasofu, F. Yasuhara and C.-I. Meng, Storm sudden commencements and polar magnetic substorms, J. Geophys. Res., 76, 6781, 1971.

Kawasaki, K. and S.-I. Akasofu, Geomagnetic storm fields near a synchronous satellite, Planet. Space Sci., 19, 1339, 1971.

Haerendel, G., P. C. Hedgecock and S.-I. Akasofu, Evidence for magnetic field aligned currents during the substorms of March 18, 1969, J. Geophys. Res., 76, 2382, 1971.

PUBLISHED ARTICLES (Cont'd)

Yoshida, S., S.-I. Akasofu, N. Ogita and A. Outi. Spherical harmonic analysis of world wide cosmic-ray variation during geomagnetic storms, J. Geophys. Res., 76, 1, 1971.

Meng, C.-I. and S.-I. Akasofu, Magnetospheric substorm observations near the neutral sheet, J. Geophys. Res., 76, 4679, 1971.

Yoshida, S., N. Ogita and S.-I. Akasofu, Cosmic-ray variations and the interplanetary sector structures, J. Geophys. Res., 76, 7801, 1971.

Bame, S. J., F. W. Hones Jr., S.-I. Akasofu, M. D. Montgomery and J. R. Asbridge, Geomagnetic storm particles in the high-latitude magnetotail, J. Geophys. Res., 76, 7566, 1971.

Meng, C.-I., S.-I. Akasofu, E. W. Hones Jr. and K. Kawasaki, Magnetospheric substorms in the distant magnetotail observed by IMP 3, J. Geophys. Res., 76, 7584, 1971.

Akasofu, S.-I., E. W. Hones Jr. and S. Singer, Impulsive energetic electron fluxes in the distant magnetotail associated with the onset of magnetospheric substorms, J. Geophys. Res., 76, 6976, 1971.

Akasofu, S.-I., Auroras over the South Pole and interplanetary magnetic field changes, Antarctic J., VI, 223, 1971.

Akasofu, S.-I., Magnetospheric substorms: A model, Solar-Terrestrial Physics, 1970, Part III, 131, D. Reidel Pub. Co., 1972.

Akasofu, S.-I., Midday auroras and magnetospheric substorms, J. Geophys. Res., 77, 244, 1972.

Heikkila, W. J., J. D. Winningham, R. H. Eather and S.-I. Akasofu, Auroral emissions and particle precipitation in the noon sector, J. Geophys. Res., 77, 4100, 1972.

Akasofu, S.-I., Midday auroras and polar cap auroras, Geofysike Publikasjoner, 29, 73, 1972.

Akasofu, S.-I., Midday auroras at the South Pole during magnetosphere substorms, J. Geophys. Res., 77, 2303, 1972.

Onwumechili, A. and S.-I. Akasofu, On the abnormal depression of Sq (H) under the equatorial electrojet in the afternoon, J. Geomag. and Geoelec., 24, 161, 1972.

Kawasaki, K. and S.-I. Akasofu, The growth and decay of the main phase of the September 21-23, 1963 magnetic storm, J. Geomag. and Geoelec., 24, 175, 1972.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., D. S. Kimball, J. Buchau and R. W. Gowell, Alignment of auroral arcs, J. Geophys. Res., 77, 4233, 1972.

Akasofu, S.-I., Photographs of the front of the expanding auroral bulge during an auroral substorm, Planet. Space Sci., 20, 821, 1972.

Hones, E. W. Jr., S.-I. Akasofu, S. J. Bame and S. Singer, Outflow of plasma from the magnetotail into the magnetosheath, J. Geophys. Res., 77, 6688, 1972.

Hones, E. W. Jr., J. R. Asbridge, S. J. Bame, M. D. Montgomery, S. Singer and S.-I. Akasofu, Measurements of magnetotail plasma flow made with Vela 4B, J. Geophys. Res., 77, 5503, 1972.

Akasofu, S.-I., Introduction to: Symposium on the morphology and plysics of magnetospheric substorms, Planet. Space Sci., 20, 1361, 1972.

Snyder, A. L. and S.-I. Akasofu, Observations of the auroral oval by the Alaskan meridian chain of stations, J. Geophys. Res., 77, 3419, 1972.

Brown, R. R., H. Leinbach, S.-I. Akasofu, V. M. Driatsky and R. J. Smith, Quadruple conjugate pair observations of the sudden commencement absorption event on June 17, 1965, J. Geophys. Res., 77, 5602, 1972.

Kawasaki, K. and S.-I. Akasofu, Geomagnetic disturbances in the polar cap: $S_q^p$ and DP 2, Planet. Space Sci., 20, 1163, 1972.

Snyder, A. L., J. Buchau and S.-I. Akasofu, Formation of auroral patches in the midday sector during a substorm, Planet. Space Sci., 20, 1116, 1972.

Akasofu, S.-I. and A. L. Snyder, Comments on the growth phase of magnetospheric substorms, J. Geophys. Res., 77, 6275, 1972.

Akasofu, S.-I., Auroral observations at Amundsen-Scott South Pole station, Antarctic J. of the U.S., VII, 158, 1972.

Carpenter, D. L. and S.-I. Akasofu, Two substorm studies of relation between westward electric fields in the outer plasmasphere, auroral activity and geomagnetic perturbations, J. Geophys. Res., 77, 6854, 1972.

Akasofu, S.-I. and W. I. Axford, Magnetospheric substorms, Russian reprint, given at a symposium by T. N. Davis, 37, 1972.

PUBLISHED ARTICLES (Cont'd)

Onwumechili, A., K. Kawasaki and S.-I. Akasofu, Relationships between the equatorial electrojet and polar magnetic variations, Planet. Space Sci., 21, 1, 1973.

Meng, C.-I., B. Tsurutani, K. Kawasaki and S.-I. Akasofu, Cross-correlation analysis of the AE index and the interplanetary magnetic field $B_z$ component, J. Geophys. Res., 78, 617, 1973.

Kawasaki, K. and S.-I. Akasofu, A possible current system associated with the $S_q^p$ variation, Planet. Space Sci., 21, 329, 1973.

Snyder, A. L., S.-I. Akasofu and C. P. Pike, The day-sector polar F-layer during a magnetospheric substorm, Planet. Space Sci., 21, 399, 1973.

Kawasaki, K. and S.-I. Akasofu, Reply, Planet. Space Sci., 21, 692, 1973.

Lui, A. T. Y., P. Perreault, S.-I. Akasofu and C. D. Anger, The diffuse aurora, Planet. Space Sci., 21, 857, 1973.

Akasofu, S.-I. and F. Yasuhara, Red auroras in the morning sector, J. Geophys. Res., 78, 3027, 1973.

Bates, H. F., S.-I. Akasofu, D. S. Kimball and J. C. Hodges, First results from the north polar auroral radar, J. Geophys. Res., 78, 3857, 1973.

Heacock, R. R. and S.-I. Akasofu, Periodically structured Pc 1 micropulsations during the recovery phase of intense magnetic storms. J. Geophys. Res., 78, 5524, 1973.

Kawasaki, K., F. Yasuhara and S.-I. Akasofu, Short-period interplanetary and polar magnetic field variations, Planet. Space Sci., 21, 1743, 1973.

Winningham, J. D., S.-I. Akasofu, F. Yasuhara and W. J. Heikkila, Simultaneous observations of auroras from the South Pole station and of precipitating electrons by ISIS 1, J. Geophys. Res., 78, 6579, 1973.

Yoshida, S., N. Ogita, S.-I. Akasofu and L. J. Gleeson, Variations of three-dimensional anisotropy of cosmic rays during Forbush decreases, J. Geophys. Res., 78, 6409, 1973.

Wagner, R. A., A. L. Snyder and S.-I. Akasofu, The structure of the polar ionosphere during exceptionally quiet periods, Planet. Space Sci., 21, 1911, 1973.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., F. Yasuhara and K. Kawasaki, A note on the DP 2 variation, Planet. Space Sci., 21, 2232, 1973.

Yasuhara, F., S.-I. Akasofu, J. D. Winningham and W. J. Heikkila, Equatorward shift of the cleft during magnetospheric substorms as observed by ISIS 1, J. Geophys. Res., 78, 7286, 1973.

Akasofu, S.-I., P. D. Perreault, F. Yasuhara and C.-I. Meng, Auroral substorms and the interplanetary magnetic field, J. Geophys. Res., 78, 7490, 1973.

Anger, C. D., A. T. Y. Lui and S.-I. Akasofu, Observations of the auroral oval and a westward traveling surge from the ISIS 2 satellite and Alaskan meridian all-sky cameras, J. Geophys. Res., 78, 3020, 1973.

Akasofu, S.-I. and J. R. Kan, Some new thoughts on magnetospheric substorms, Radio Science, 8, 1049, 1973.

Akasofu, S.-I., Auroras observed from outer space, Shizen, 28, 30, November, 1973 (Japanese Journal).

Akasofu, S.-I., Auroral studies at South Pole station, Antarctic J. of the U.S., VIII, 248, 1973.

Akasofu, S.-I., E. W. Hones Jr., S. J. Bame, J. R. Asbridge and A. T. Y. Lui, Magnetotail and boundary layer plasmas at a geocentric distance of ~ 18 $R_E$: Vela 5 and 6 observations, J. Geophys. Res., 78, 7257, 1973.

Akasofu, S.-I., S. DeForest and C. McIlwain, Auroral displays near the 'Foot' of the field line of the ATS-5 satellite, Planet. Space Sci., 22, 25, 1974.

Rostoker, G., A. J. Chen, F. Yasuhara, S.-I. Akasofu and K. Kawasaki, High latitude equivalent current systems during extremly quiet times, Planet. Space Sci., 22, 427, 1974.

Kan. J. R. and S.-I. Akasofu, A model of the open magnetosphere, J. Geophys. Res., 79, 1379, 1974.

Snyder, A. L., S.-I. Akasofu and T. N. Davis, Auroral substorms observed from above the north polar region by a satellite, J. Geophys. Res., 79, 1393, 1974.

Akasofu, S.-I., The midday red aurora observed at the South Pole on August 5, 1971, J. Geophys. Res., 79, 2904, 1974.

PUBLISHED ARTICLES (Cont'd)

Gurnett, D. A. and S.-I. Akasofu, Electric and magnetic field observations during a substorm on February 24, 1970, J. Geophys. Res., 79, 3197, 1974.

Kamide, Y. and S.-I. Akasofu, Latitudinal cross section of the auroral electrojet and its relation to the interplanetary magnetic field polarity, J. Geophys. Res., 79, 3755, 1974.

Kamide, Y., F. Yasuhara and S.-I. Akasofu, On the cause of northward magnetic field along the negative x axis during magnetospheric substorms, Planet. Space Sci., 22, 1219, 1974.

Rino, C. L., V. B. Wickwar, P. M. Banks, S.-I. Akasofu and E. Reiger, Incoherent scatter radar observations in westward electric fields, 2, J. Geophys. Res., 79, 4669, 1974.

Akasofu, S.-I., Discrete, continuous and diffuse auroras (Research Note), Planet. Space Sci., 22, 1723, 1974.

Snyder, A. L. Jr. and S.-I. Akasofu, Major auroral substorm features in the dark sector observed by a USAF DMSP satellite, Planet. Space Sci., 22, 1511, 1974.

Akasofu, S.-I., A study of auroral displays photographed from the DMSP-2 satellite and from the Alaska meridian chain of stations, Space Science Review, 16, 617, 1974.

Armstrong, J. C., S.-I. Akasofu and G. Rostoker, A comparison of satellite observations of Birkeland currents with ground observations of visible aurora and ionospheric currents, J. Geophys. Res., 80, 575, 1975.

Lui, A. T. Y., C. D. Anger, D. Venkatesan, W. Sawchuk and S.-I. Akasofu, The topology of the auroral oval as seen by the ISIS-2 scanning auroral photometer, J. Geophys. Res., 80, 1795, 1975.

Snyder, A. L., S.-I. Akasofu and D. S. Kimball, The continuity of the auroral oval in the afternoon sector (Research Note), Planet. Space Sci., 23, 225, 1975.

Yasuhara, F., Y. Kamide and S.-I. Akasofu, A modeling of the magnetospheric substorm, Planet. Space Sci., 23, 575, 1975.

Kamide, Y., S.-I. Akasofu, S. T. DeForest and J. L. Kisabeth, Weak and intense substorms, Planet. Space Sci., 23, 579, 1975.

PUBLISHED ARTICLES (Cont'd)

Pike, C. P., C.-I. Meng, S.-I. Akasofu and J. W. Whalen, Observed correlations between interplanetary magnetic field variations and dynamics of the auroral oval and the high-latitude ionosphere, J. Geophys. Res., 79, 5129, 1974.

Winningham, J. D., F. Yasuhara, S.-I. Akasofu and W. J. Heikkila, The latitudinal morphology of 10-eV to 10-keV electron fluxes during magnetically quiet and disturbed times in the 2100-0300 MLT sector, J. Geophys. Res., 80, 3148, 1975.

Kamide, Y., F. Yasuhara and S.-I. Akasofu, A model current system for the magnetospheric substorm, Planet. Space Sci., 24, 215, 1976.

Akasofu, S.-I., The roles of the north-south component of the interplanetary magnetic field on large-scale auroral dynamics observed by the DMSP satellite, Planet. Space Sci., 23, 1349, 1975.

Yasuhara, F., Y. Kamide and S.-I. Akasofu, Field-aligned and ionospheric currents, Planet. Space Sci., 23, 1355, 1975.

Akasofu, S.-I., North-south component of the interplanetary magnetic field and large-scale auroral dynamics, Nature, 256, 191, 1975.

Lui, A.T.Y., C. D. Anger and S.-I. Akasofu, The equatorward boundary of the diffuse aurora and auroral substorms as seen by the ISIS-2 auroral scanning photometer, J. Geophys. Res., 80, 3603, 1975.

Akasofu, S.-I., The aurora and the magnetosphere: The Chapman Memorial Lecture, Planet. Space Sci., 22, 885, 1974.

Kamide Y. and S.-I. Akasofu, The auroral electrojet and global auroral features, J. Geophys. Res., 80, 3585, 1975.

Kamide, Y. and S.-I. Akasofu, The auroral electrojet and field-aligned current, Planet. Space Sci., 24, 203, 1976.

Kamide, Y., S.-I. Akasofu and A. Brekke, Ionospheric currents obtained from the Chatanika radar and ground magnetic perturbations at the auroral latitude, Planet. Space Sci., 24, 193, 1976.

Kamide, Y. and S.-I. Akasofu, The location of the field-aligned currents with respect to discrete auroral arcs, J. Geophys. Res. 81, 3999, 1976.

Akasofu, S.-I. and Y. Kamide, Substorm energy, Planet. Space Sci. 24, 223, 1976.

Snyder, A. L. Jr. and S.-I. Akasofu, Auroral oval photographs from the DMSP-8531 and 10533 satellites, J. Geophys. Res., 81, 1799, 1976.

PUBLISHED ARTICLES (Cont'd)

Lui, A.T.Y., S.-I. Akasofu, E. W. Hones Jr., S. J. Bame and C. E. McIlwain, Observation of the plasma sheet during a contracted oval substorm in a prolonged quiet period, J. Geophys. Res., 81, 1415, 1976.

Hones, E. W. Jr., S.-I. Akasofu and P. Perreault, Associations of IMF polarity, plasma sheet thinning and substorm occurrence on March 6, 1970, J. Geophys. Res., 81, 6029, 1976.

Yasuhara, F. and S.-I. Akasofu, Field-aligned currents and ionospheric electric fields, J. Geophys. Res., 82, 1279, 1977.

Deehr, C. S., J. D. Winningham, F. Yasuhara and S.-I. Akasofu, Simultaneous observations of discrete and diffuse auroras by the ISIS-2 satellite and airborne instruments, J. Geophys. Res., 81, 5527, 1976.

Kamide, Y., M. Kanamitsu and S.-I. Akasofu, A new method of mapping worldwide potential contours for ground magnetic perturbations: Equivalent ionospheric current representation, J. Geophys. Res., 81, 3810, 1976.

Lui, A.T.Y., E. W. Hones Jr., D. Venkatesan, S.-I. Akasofu and S. J. Bame, Response of the plasma sheet at ∿18 $R_E$ to sudden southward turnings of the interplanetary magnetic field, J. Geophys. Res., 80, 929, 1975.

Akasofu, S.-I., A study of auroral displays photographed from the DMSP-2 and ISIS-2 satellites, in Physics of the Hot Plasma in the Magnetosphere, 113, ed. by B. Hultqvist and L. Stenflo, Plenum Press, New York, 1975.

Akasofu, S.-I. and L. J. Lanzerotti, The earth's magnetosphere, Physics Today, p. 28, December, 1975.

Meng, C.-I. and S.-I. Akasofu, The relation between the polar cap auroral arc and the auroral oval arc, J. Geophys. Res, 81, 4004, 1976.

Akasofu, S.-I., Recent progress in studies of DMSP auroral photographs, Space Sci. Rev., 19, 169, 1976.

Kamide, Y., J. L. Burch, J. D. Winningham and S.-I. Akasofu, Dependence of the latitude of the cleft on the interplanetary magnetic field and substorm activity, J. Geophys. Res., 81, 698, 1976.

Yasuhara, F. and S.-I. Akasofu, Field-aligned currents and ionospheric electric fields, J. Geophys. Res., 82, 1279, 1977.

PUBLISHED ARTICLES (Cont'd)

Hones, E. W. Jr., S.-I. Akasofu, J. H. Wolcott, S. J. Bame, D. H. Fairfield and C.-I. Meng, Correlated observations of several auroral substorms on February 17, 1971, J. Geophys. Res., 81, 1725, 1976.

Lui, A. T. Y., E. W. Hones Jr., D. Venkatesan, S.-I. Akasofu and S. J. Bame, Complete plasma dropouts at Vela satellites during thinning of the plasma sheet, J. Geophys. Res., 80, 4649, 1975.

Akasofu, S.-I., Magnetosphere and magnetospheric substorm, Solar Phys., 47, 321, 1976.

Akasofu, S.-I., Auroras at the South Pole, Antarctic J., 10, 225, 1975.

Meng, C.-I., R. H. Holzworth and S.-I. Akasofu, Auroral circle, delineating the poleward boundary of the quiet auroral belt, J. Geophys. Res., 82, 164, 1977.

Kamide, Y., S.-I. Akasofu and G. Rostoker, Field-aligned currents at the auroral electrojet in the morning sector, J. Geophys. Res., 81, 6141, 1976.

Kamide, Y., S.-I. Akasofu and E. P. Rieger, Coexistence of two substorms in the midnight sector J. Geophys. Res., 82, 1620, 1977.

Tsunoda, R. T., R. I. Presnell, Y. Kamide, S.-I. Akasofu and G. Rostoker, Relationship of radar aurora, visual aurora and auroral electrojets in the evening sector, J. Geophys. Res., 81, 6005, 1976.

Lui, A. T. Y., E. W. Hones Jr., F. Yasuhara, S.-I. Akasofu and S. J. Bame, Magnetotail plasma flow during plasma sheet expansions: Vela 5, 6 and IMP-6 observations, J. Geophys. Res., 82, 1235, 1977.

Lui, A. T. Y., C.-I. Meng and S.-I. Akasofu, Search for the magnetic neutral line in the near-earth plasma sheet: 1. Critical re-examination of earlier studies on magnetic field observations J. Geophys. Res., 81, 5934, 1976.

Lui, A. T. Y., D. Venkatesan, C. D. Anger, S.-I. Akasofu, W. J. Heikkila, J. D. Winningham and J. R. Burrows, Simultaneous observations of particle precipitations and auroral emissions by the ISIS-2 satellite, J. Geophys. Res., 82, 2210, 1977.

Voots, G. R., D. A. Gurnett and S.-I. Akasofu, Auroral kilometric radiation as an indicator of auroral magnetic disturbances, J. Geophys. Res., 82, 2259, 1977.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., Recent progress in antarctic auroral studies, Antarctic Research Series, Vol. 29, Upper Atmosphere Research in Antarctica, ed. by L.S. Lanzerotti and C.G. Park, p. 157, 1978.

Chao, J. K., J. R. Kan, A. T. Y. Lui and S.-I. Akasofu, A model for thinning of the plasma sheet, Planet. Space Sci., 25, 703, 1977.

Horwitz, J. L. and S.-I. Akasofu, The response of the dayside aurora to sharp northward and southward transitions of the interplanetary magnetic field and to magnetospheric substorms, J. Geophys. Res., 82, 2723, 1977.

Akasofu, S.-I. and R. P. Lepping, Interplanetary magnetic field and magnetospheric substorms, Planet. Space Sci, 25, 895, 1977.

Akasofu, S.-I., South Pole auroral photographs taken by DMSP satellite and an all-sky camera, Antarctic J., 11, 141, 1976.

Meng, C.-I., S.-I. Akasofu and K. A. Anderson, Dawn-dusk gradient of the precipitation of low energy electrons over the polar cap and its relation to the interplanetary magnetic field, J. Geophys. Res., 82, 5271, 1977.

Lui, A.T.Y., L.A. Frank, K.L. Ackerson, C.-I. Meng and S.-I. Akasofu, Systematic study of plasma flow during plasma sheet thinnings, J. Geophys. Res., 82, 4815, 1977.

Akasofu, S.-I., Solar Cycle Review, Physics of Solar Planetary Environments, Proceedings of the International Symposium on Solar-Terrestrial Physics, June 7-18, 1976, Boulder, Colorado, pp. 1-33, ed. D. J. Williams, American Geophysical Union, 1976.

Lui, A. T. Y., C.-I. Meng and S.-I. Akasofu, Search for the magnetic neutral line in the near-earth plasma sheet: 2. Systematic study of IMP-6 magnetic field observations, J. Geophys. Res., 82, 1547, 1977.

Akasofu, S.-I., Magnetospheric substorm, Q. J. Roy. Astronom. Soc., 18, 170, 1977.

Akasofu, S.-I., A study of magnetospheric distances, Japanese Scientific Monthly, 30, 1977.

Lui, A. T. Y., C.-I. Meng and S.-I. Akasofu, Search for the magnetic neutral line in the near-earth plasma sheet: 3. An extensive study of magnetic field observations at the lunar distance, J. Geophys. Res., 82, 3603, 1977.

PUBLISHED ARTICLES (Cont'd)

Kamide, Y., P. D. Perreault, S.-I. Akasofu and J. D. Winningham, Dependence of substorm occurrence probability on the interplanetary magnetic field and on the size of the auroral oval, J. Geophys. Res., 82, 5521, 1977.

Akasofu, S.-I., Auroras in the cusp region, Antarctic J., 12, 195, 1977.

Akasofu, S.-I., The aurora: An electrical discharge process around the earth, Endeavour, 2, 7, 1978.

Kan, J.R. and S.-I. Akasofu, A mechanism for current interruption in a collisionless plasma, J. Geophys. Res., 83, 735, 1978.

Akasofu, S.-I., Cosmic electrodynamics and the aurora, Shizen, 33, 31, 1978.

Akasofu, S.-I., Magnetospheric substorms, EOS, 59, 68, 1978.

Akasofu, S.-I., The interaction between a magnetized plasma flow and a magnetized celestial body: A review of magnetospheric studies, Space Sci. Rev., 21, 489, 1978.

Kan, J.R. and S.-I. Akasofu, Energy source and mechanisms for accelerating the electrons and driving the field-aligned currents of the discrete auroral arc, J. Geophys. Res., 81, 5123, 1976.

Perreault, P. and S.-I. Akasofu, A study of geomagnetic storms, Geophys. J. Roy.. Astron. Soc., 54, 547, 1978.

Akasofu, S.-I., A.T.Y. Lui, C.-I. Meng and M. Kaurwitz, Need for a three-dimensional analysis of magnetic fields in the magnetotail during substorms, Geophys. Res. Letters, 5, 283, 1978.

Lui, A.T.Y., L.A. Frank, K.L. Ackerson, C.-I. Meng and S.-I. Akasofu, Plasma flows and magnetic field vectors in the plasma sheet during substorms, J. Geophys. Res., 83, 3849, 1978.

Lui, A.T.Y., C.-I. Meng and S.-I. Akasofu, Wavy nature of the magnetotail neutral sheet, Geophys. Res. Letters, 5, 279, 1978.

Kan, J.R. and S.-I. Akasofu, A model of the auroral electric field, J. Geophys. Res., 84, 507, 1979.

Horwitz, J.L., J.R. Doupnik, P.M. Banks, Y. Kamide and S.-I. Akasofu, The latitudinal distributions of auroral zone electric fields and ground magnetic perturbations and their response to variations in the interplanetary magnetic field, J. Geophys. Res., 83, 2071, 1978.

PUBLISHED ARTICLES (Cont'd)

Fälthammar, C.-G., S.-I. Akasofu and H. Alfven, The significance of magnetospheric research for progress in astrophysics, Nature, 275, 185, 1978.

Bond, F. R. and S.-I. Akasofu, Comparison of auroral ovals from all-sky camera studies and from satellite photographs, Planet. Space Sci., 27, 541, 1979.

Akasofu, S.-I., Energy flux in the solar wind and magnetospheric substorms, Antarctic J., 8, 209, 1978.

Akasofu, S.-I., Interplanetary energy flux associated with magnetospheric substorms, Planet. Space Sci., 27, 425, 1979.

Akasofu, S.-I., A search for the interplanetary quantity controlling the development of magnetic storms, Q. J. Roy. Astron. Soc., 20, 119, 1979.

Akasofu, S.-I., Report on AGU Chapman Conference on magnetospheric substorms, EOS, 60, 138, 1979.

Akasofu, S.-I., Relationship between the growth of the ring current and the interplanetary quantity ε, (Research Note), Planet. Space Sci., 27, 1039, 1979.

Akasofu, S.-I., Radial deformation of the solar current sheet as a cause of geomagnetic storms, Planet. Space Sci., 27, 1055, 1979.

Akasofu, S.-I., The aurora, Physics Teacher, 17, 228, 1979.

Wagner, J. S., J. R. Kan and S.-I. Akasofu, Particle dynamics in the plasma sheet, J. Geophys. Res., 84, 891, 1979.

Akasofu, S.-I., Magnetospheric substorms and solar flares, Solar Physics, 64, 333, 1979.

Akasofu, S.-I. and R. P. Merritt, Electric currents in power transmission line induced by auroral activity, Nature, 279, 308, 1979.

Kan, J. R., L. C. Lee and S.-I. Akasofu, Two-dimensional potential double layers and discrete auroras, J. Geophys. Res., 84, 4305, 1979.

Berkey, F. T., S.-I. Akasofu, C. Anger and E. P. Rieger, The signature of large-scale auroral structure in radio wave absorption, J. Geophys. Res., 85, 593, 1980.

Akasofu, S.-I. and R. P. Lepping, Solar wind disturbances and magnetospheric substorms and storms, IMP Book, (ed. by Norman Ness), Goddard Space Flight Center, NASA, 1979.

PUBLISHED ARTICLES (Cont'd)

Horwitz, J. L., and S.-I. Akasofu, On the relationship of the polar cap current system to the north-south component of the interplanetary magnetic field, J. Geophys. Res., 84, 2567, 1979.

Kan, J. R., S.-I. Akasofu, and L. C. Lee, Physical processes for the onset of magnetospheric substorms, in Dynamics of the Magnetosphere, edited by S.-I. Akasofu, p. 357, D. Reidel Pub. Co., Dordrecht-Holland, 1979.

Akasofu, S.-I., What is a magnetospheric substorm?, in Dynamics of the Magnetosphere, edited by S.-I. Akasofu, p. 447, D. Reidel Pub. Co., Dordrecht-Holland, 1979.

Akasofu, S.-I., J. Kisabeth, G. J. Romick, H. W. Kroehl, and B.-H. Ahn, Day-to-day and average magnetic variations along the IMS Alaska meridian chain of observatories and modeling of a three-dimensional current system, J. Geophys. Res., 85, 2065, 1980.

Akasofu, S.-I., G. J. Romick, and H. W. Kroehl, The IMF $B_y$ effects observed by the IMS Alaska meridian chain, J. Geophys. Res., 85, 2079, 1980.

Akasofu, S.-I., and J. K. Chao, Prediction of the occurrence and intensity of magnetospheric substorms, Geophys. Res. Lett., 6, 897, 1979.

Akasofu, S.-I., and B.-H. Ahn, Dependence of the amount of open magnetic flux on the direction of the interplanetary magnetic field, Planet. Space Sci., 28, 545, 1980.

Akasofu, S.-I., G. J. Romick, B.-H. Ahn, H. W. Kroehl, J. E. Allen, and J. Kisabeth, Average daily magnetic variation pattern and its equivalent current pattern determined by the IMS Alaska meridian chain of observatories, Geophys. Res. Lett., 6, 885, 1979.

Akasofu, S.-I., J. Kisabeth, B.-H. Ahn, and G. J. Romick, The $S_q^P$ magnetic variation, equivalent current and field-aligned current distribution obtained from the IMS Alaska meridian chain of observatories, J. Geophys. Res., 85, 2085, 1980.

Akasofu, S.-I., Magnetic energy conversion, magnetospheric substorms and solar flares, Nature, 284, 248, 1980.

Akasofu, S.-I., and J. K. Chao, Interplanetary shock waves and magnetospheric substorms, Planet. Space Sci., 28, 381, 1980.

Rostoker, G., S.-I. Akasofu, J. Foster, R. A. Greenwald, Y. Kamide, K. Kawasaki, A. T. Y. Lui, R. L. McPherron, and C. T. Russell, Magnetospheric substorms - definition and signatures, J. Geophys. Res., 85, 1663, 1980.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., The solar wind - magnetosphere energy coupling and magnetospheric disturbances, Planet. Space Sci., 28, 495, 1980.

Wagner, J. S., T. Tajima, J. R. Kan, J. N. Leboeuf, S.-I. Akasofu, and J. M. Dawson, V-potential double layers and the formation of auroral arcs, Phys. Rev. Lett., 45, 803, 1980.

Kan, J. R., L. C. Lee, and S.-I. Akasofu, The energy coupling function and the power generated by the solar wind - magnetosphere dynamo, Planet. Space Sci., 28, 823, 1980.

Akasofu, S.-I., P. C. Gray, and L. C. Lee, A model of the heliospheric magnetic field configuration, Planet. Space Sci., 28, 609, 1980.

Akasofu, S.-I., and D. N. Covey, Effects of the interplanetary magnetic field on the magnetotail structure: Large-scale changes of the plasma sheet during magnetospheric substorms, Planet. Space Sci., 28, 707, 1980.

Akasofu, S.-I., Passage of the solar current disk and major geomagnetic storms, Solar Phys., 71, 175, 1981.

Akasofu, S.-I., B.-H. Ahn, and J. Kisabeth, Distribution of field-aligned currents and expected magnetic field perturbations resulting from auroral currents along circular orbits of satellites, J. Geophys. Res., 85, 6883, 1980.

Akasofu, S.-I., and G. K. Corrick, A modeling of magnetic field variations during magnetospheric substorms, Planet. Space Sci., 28, 749, 1980.

Aspnes, J. D., R. P. Merritt, and S.-I. Akasofu, Harmonic generation in transformers related to dc excitation and system loading, IEEE Transactions on Power Apparatus and Systems, paper no. 80SM 710-4, 1980.

Akasofu, S.-I., and J. R. Kan, Dayside and nightside auroral arc systems, Geophys. Res. Lett., 7, 753, 1980.

Akasofu, S.-I., and B.-H. Ahn, Distribution of the field-aligned currents, ionospheric currents and electric fields in the polar region on a very quiet day and a moderately disturbed day, J. Geophys. Res., 86, 753, 1981.

Lui, A. T. Y., and S.-I. Akasofu, Estimated north-south component of the electric field in the geomagnetotail plasma sheet, Geophys. Res. Lett., 7, 877, 1980.

Akasofu, S.-I., Why do geomagnetic storms occur? Shizen, (in press), 1981.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., Are solar flares a result of a sudden conversion of magnetic energy stored prior to their onset?, Solar Phys., 71, 107, 1981.

Akasofu, S.-I., Study of individual geomagnetic storms in terms of the solar wind, Planet. Space Sci., 28, 933, 1980.

Osterkamp, T. E., R. W. Jurick, G. A. Gislason, and S.-I. Akasofu, Electrical resistivity measurements in permafrost terrain at the Engineer Creek road cut, Fairbanks, Alaska, Cold Regions Sci. Tech., 3, 277, 1980.

Akasofu, S.-I., and D. N. Covey, Magnetic field configuration of the heliosphere in interstellar space, Planet. Space Sci., 29, 313, 1981.

Nakamada, K., and S.-I. Akasofu, A cause of solar wind speed variations observed at 1 a.u., J. Geophys. Res., 86, 1290, 1981.

Kamide, Y., and S.-I. Akasofu, Global distribution of the Pedersen and Hall currents and the electric potential pattern, during a moderately disturbed period, J. Geophys. Res., 86, 3665, 1981.

Aspnes, J. D., R. P. Merritt and S.-I. Akasofu, Effects of geomagnetically induced current on electric _____ systems, The Northern Engineer, 13, 34, 1981.

Akasofu, S.-I., M. Roederer, G. K. Corrick, and D. N. Covey, Equatorward shift of the cusp during magnetospheric substorms, Planet. Space Sci., 29, 317, 1981.

Akasofu, S.-I., Relationships between the AE and Dst indices during geomagnetic storms, J. Geophys. Res., 86, 4820, 1981.

Wagner, J. S., P. C. Gray, J. R. Kan, T. Tajima, and S.-I. Akasofu, Particle dynamics in reconnection field configurations, Planet. Space Sci., 29, 391, 1981.

Yeh, T., J. R. Kan, and S.-I. Akasofu, A theoretically derived energy coupling function for the magnetosphere, Planet. Space Sci., 29, 425, 1981.

Kamide, Y., B.-H. Ahn, G. K. Corrick, and S.-I. Akasofu, Magnetic field of the average substorm current system in middle and low latitudes, J. Geophys. Res., 86, 821, 1981.

Akasofu, S.-I., Y. Kamide, and J. Kisabeth, Comparison of two modeling methods for three-dimensional current systems, J. Geophys. Res., 86, 3389, 1981.

PUBLISHED ARTICLES (Cont'd)

Kamide, Y., S.-I. Akasofu, B.-H. Ahn, W. Baumjohann, and J. Kisabeth, Total current of the auroral electrojet estimated from the IMS Alaska meridian chain of magnetic observatories, Planet. Space Sci., 30, 621, 1982.

Akasofu, S.-I., Auroral arcs and auroral potential structure, Physics of Auroral Arc Formation, ed. by S.-I. Akasofu and J. R. Kan, p. 1, Amer. Geophys. Union, Washington D.C., 1981.

Akasofu, S.-I., D. N. Covey, and C.-I. Meng, Dependence of the geometry of the region of open field lines on the interplanetary magnetic field, Planet. Space Sci., 29, 803, 1981.

Akasofu, S.-I., and Y. Kamide, Recent progress in studies of magnetospheric storms and substorms, J. Geomag. Geoelec., 32, 585, 1980.

Akasofu, S.-I., Energy coupling between the solar wind and the magnetosphere, Space Sci. Rev., 28, 121, 1981.

Akasofu, S.-I., The Aurora: An electrical discharge phenomenon surrounding the earth, Reports on Progress in Physics, 44, 1123, 1981.

Akasofu, S.-I., and J. D. Aspnes, Auroral effects on power transmission line systems, Nature, 295, 136, 1982.

Hakamada, K., and S.-I. Akasofu, Simulation of three-dimensional solar wind disturbances and resulting geomagnetic storms, Space Science Reviews, 31, 3, 1982.

Akasofu, S.-I., Y. Kamide, J. R. Kan, L. C. Lee, and B.-H. Ahn, Power transmission from the solar wind-magnetosphere dynamo to the magnetosphere and to the ionosphere: Analysis of the IMS Alaska meridian chain data, Planet. Space Sci., 29, 721, 1981.

Aspnes, J. D., and S.-I. Akasofu, Effect of solar induced current in autotransformer tertiary windings, IEEE Transactions on Power Apparatus and Systems, 81 SM 318-5, 1981.

Lui, A. T. Y., C.-I. Meng, L. A. Frank, K. L. Ackerson, and S.-I. Akasofu, Temperature variation of the plasma sheet during substorms, Planet. Space Sci., 29, 837, 1981.

Akasofu, S.-I., Magnetospheric substorms: A newly emerging model, Planet. Space Sci., 29, 1069, 1981.

Akasofu, S.-I., Prediction of development of geomagnetic storms using the solar wind-magnetosphere energy coupling function ε, Planet. Space Sci., 29, 1151, 1981.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., and K. Hakamada, Magnetic field configuration of the heliosphere and spiral galaxies, Ap. J., 253, 552, 1982.

Kan, J. R., and S.-I. Akasofu, Dynamo process governing solar wind-magnetosphere energy coupling, Planet. Space Sci., 30, 367, 1982.

Akasofu, S.-I., The Aurora, American Scientist, 69, 492, 1981.

Akasofu, S.-I., New forecasting methods of the intensit and time development of gemagnetic and ionospheric storms ( or IES '81) Naval Research Laboratory, 1981.

Akasofu, S.-I., Hall current as a source of the cross-tail current interruption, the asymmetric main phase field and the poleward expanding auroral bulge, Planet. Space Sci., 30, 389, 1982.

Kamide, Y., B.-H. Ahn, S.-I. Akasofu, W. Baumjohann, E. Friis-Christensen, H. Kroehl, H. Maurer, A. D. Richmond, G. Rostoker, R. W. Spiro, J. K. Walker, and A. N. Zaitzev, Global distribution of ionospheric and field-aligned currents during substorms determined using magnetic data from six IMS meridian chains, Initial results, J. Geophys. Res., 87, 8228, 1982.

Akasofu, S.-I., Interaction between a magnetized plasma flow and a strongly magnetized celestial body with an ionized atmosphere: Energetics of the magnetosphere, Annual Review of Astronomy and Astrophysics, 20, 117, 1982.

Akasofu, S.-I., Reexamination of polar cap arcs, Antarctic Journal, 1981 Review, National Science Foundation, Washington, D.C., XVI, 218, 1981.

Wagner, J. S., J. R. Kan, S.-I. Akasofu, T. Tajima, J. N. Leboeuf, and J. M. Dawson, A simulation study of V-potential double layers and auroral arc formations, p. 304, Physics of Auroral Arc Formation, S.-I. Akasofu and J. R. Kan (eds.), Am. Geophys. Union, Washington, D.C., 1981.

Akasofu, S.-I., J. F. Carbary, C.-I. Meng, J. P. Sullivan, and R. P. Lepping, A high time resolution study of the solar wind-magnetosphere energy coupling function, Planet. Space Sci., (in press), 1982.

Wagner, J. S., R. D. Sydora, T. Tajima, T. Hallinan, L. C. Lee and S.-I. Akasofu, Small-scale auroral arc deformation, (submitted) J. Geophys. Res., 1982.

Lee, L. C., J. R. Kan, and S.-I. Akasofu, Ring current energy injection rate and solar wind-magnetosphere energy coupling, Planet. Space Sci., 30, 627, 1982.

PUBLISHED ARTICLES (Cont'd)

Akasofu, S.-I., M. Roederer, and S. M. Krimigis, Dawn-dusk asymmetry of the magnetosphere of Saturn and the interplanetary magnetic field, Planet. Space Sci., 30, 1061, 1982.

Arnoldy, R. L., T. E. Moore, and S.-I. Akasofu, Plasma injection events at synchronous orbit related to positive DST, J. Geophys. Res., 87, 77, 1982.

Kan, J. R., S.-I. Akasofu, and L. C. Lee, A dynamo theory of solar flares, Solar Physics, (in press), 1983.

Akasofu, S.-I., X-ray bright points and the solar wind generation, Proc. Solar Wind Conference No. 5, (submitted), 1983.

Vasyliunas, V. M., J. R. Kan, G. L. Siscoe, and S.-I. Akasofu, Scaling relations governing magnetospheric energy transfer, Planet. Space Sci., 30, 359, 1982.

Akasofu, S.-I., Solar wind-magnetosphere energy coupling, to be published in High-Latitude Plasma Physics, proceedings of Nobel Symposium No. 54 at Kiruna, Sweden, March 1982.

Tinsley, B. A. and S.-I. Aksofu, A note on the lifetime of the ring current particles, Planet. Space Sci., (in press), 1982.

Akasofu, S.-I. and B.-H. Ahn, Magnetospheric convection at a low level power s, Planet. Space Sci., 30, 1057, 1982.

Kan, J. R. and S.-I. Akasofu, Dynamo process governing solar wind-magnetosphere energy coupling, Planet. Space Sci., 30, 367, 1982.

Kamide, Y. and S.-I. Akasofu, Notes on the auroral electrojet indices, Rev. Geophys. and Space Phys., (submitted), 1982.

Akasofu, S.-I. and J. R. Kan, Importance of initial ionospheric conductivity on substorm onset, Planet. Space Sci., 30, 1315, 1982.

Yasuhara, F., R. Greenwald and S.-I. Akasofu, On the rotation of the polar cap potential pattern and associated polar phenomena, (submitted), J. Geophys. Res., 1982.

Ahn, B.-H., R. M. Robinson, Y. Kamide and S.-I. Akasofu, Electric conductivities and fields in the auroral ionosphere and their relations to horizontal magnetic disturbances, Planet. Space. Sci., (in press), 1983.

Akasofu, S.-I., A comprehensive view of solar terrestrial relationships in terms of a chain of four dynamo-powered plasma acceleration processes, Planet. Space Sci., (in press), 1982.

PUBLISHED ARTICLES (Cont'd)

Makita, K., C.-I. Meng and S.-I. Akasofu, Polar cap and auroral oval displacement associated with geomagnetic activity and interplanetary magnetic field fluctuation, J. Geophys. Res., (submitted), 1982.

Akasofu, S.-I., Evolution of ideas in solar-terrestrial physics, Geophys. J. Roy. Astr. Soc., (in press), 1982.

Aspnes, J. D., R. P. Merritt, and S.-I. Akasofu, Effects of geomagnetically induced current on electric power systems, The Northern Engineer, 13, 34, 1981.

Akasofu, S.-I. and M. Roederer, Polar cap arcs and the open regions, Planet. Space Sci. (in press), 1982.

Akasofu, S.-I. and K. Hakamada, A note on different types of spiral galaxies, Ap. J. (submitted), 1982.

Akasofu, S.-I., The aurora: New light on an old mystery, Sky & Tel., December, 1982.

Akasofu, S.-I., Energy flow and dynamical coupling in the solar wind-magnetosphere-ionosphere system, Radio Sci. (submitted), 1982.

Meng, C.-I. and S.-I. Akasofu, Electron precipitation equatorward of the mid-day oval and the mantle aurora, Planet. Space Sci. (in press), 1983.

Akasofu, S.-I. and G. Gislason, A simulation study of the formation of a bi-polar magnetic structure (submitted), Solar Phys.

Akasofu, S.-I., B.-H. Ahn and G. J. Romick, A study of the polar current systems using the IMS meridian chains of magnetometers: 1 Alaska meridian chain, Space Sci. Rev. (in press), 1983.

Akasofu, S.-I., Rapid development of a polar cap arc observed on January 21, 1981 at Thule.

Rostoker, G., S.-I. Akasofu, W. Baumjohann, Y. Kamide and R. L. McPherron, Magnetospheric substorms - the respective roles of the solar wind and the magnetotail in providing energy for substorm expansion plasma, J. Geophys. Res. (in preparation), 1983.

Kletzing, C., C. Cattell, F. Mozer, S.-I. Akasofu and K. Makita, Evidence for electrostatic shocks as the source of discrete auroral arcs, Geophys. Res. Lett., 1983.

Baker, D. N., R. D. Zwickl, S. J. Bame, E. W. Hones, Jr., B. T. Tsurutani, E. J. Smith and S.-I. Akasofu, An ISEE-3 high time resolution study of interplanetary parameter correlation with magnetospheric activity, J. Geophys. Res. (submitted).

PUBLICATIONS (Cont'd)

Akasofu, S.-I., B.-H. Ahn, Y. Kamide and J. H. Allen, A note on the accuracy of the auroral electrojet indices, J. Geophys. Res. (submitted).

Akasofu, S.-I. and K. Hakamada, Solar wind disturbances in the outer heliosphere, caused by successive solar flares from the same active region, Proc. Solar Wind Conference No. 5, (submitted) 1983.

Akasofu, S.-I. and K. Hakamada, Solar wind disturbances in the outer heliosphere, caused by six successive solar flares from the same active region, Geophys. Res. Lett., (submitted) 1983.

Lee, L. C., G. Corrick and S.-I. Akasofu, On the ring current energy injection rate, Planet. Space Sci. (submitted), 1983.

Lui, A. T. Y., S. M. Krimigis, D. J. Williams, T. E. Eastman, L. A. Frank and S.-I. Akasofu, Detailed case study of reversal in streaming anisotropy of energetic particles in the earth's magnetotail during a substorm, J. Geophys. Res. (in preparation), 1983.

Akasofu, S.-I., Paradigm, creativity, scientific revolution, Shizen, 38, (March) 1983.

Books

Akasofu, S.-I. Polar and Magnetospheric Substorms, D. Reidel Pub. Co., Dordrecht, Holland, 1968. (also a Russian edition)

Akasofu, S.-I., B. Fogle and B. Haurwitz, Sydney Chapman, Eighty, Published by the National Center for Atmospheric Research and the Publishing Service of the University of Colorado, 1968.

Akasofu, S.-I. and S. Chapman, Solar-Terrestrial Physics, Clarendon Press, Oxford, England, 1972. (also a Russian and Chinese edition).

Akasofu, S.-I., The Aurora: A Discharge Phenomenon Surrounding the Earth, (in Japanese), Chuo-koran-sha, Tokyo, Japan.

Akasofu, S.-I., Physics of Magnetospheric Substorms, D. Reidel, Pub. Co., Dordrecht-Holland, 1977.

Akasofu, S.-I., Aurora Borealis: The Amazing Northern Lights, Alaska Geographic Society, Alaska Northwest Pub. Co., 6, No. 2, 1979. (also a Japanese edition).

Akasofu, S.-I., (ed.) Dynamics of the Magnetosphere, D. Reidel Pub. Co., Dordrecht, Holland, 1979.

Akasofu, S.-I. and J. R. Kan (ed), Physics of Auroral Arc Formation, Amer. Geophys. Union, Washington, D.C., 1981.

PUBLICATIONS (Cont'd)

## Encyclopedia Articles

Akasofu, S.-I., Auroras, Encyclopedia Brittanica, 15th ed., 373-377.

Akasofu, S.-I., Aurora, Encyclopedia of Science and Technology, 5th Edition, McGraw-Hill, 1980.

Akasofu, S.-I., Magnetosphere, Encyclopedia of Science and Technology, 5th Edition, McGraw-Hill, 1980.

Akasofu, S-I., Magnetosphere, Academic American Encyclopedia, Acrete Pub. Co., 1980.

Akasofu, S.-I., Magnetic storm, Academic American Encyclopedia, Acrete Pub. Co., 1980.

Akasofu, S.-I., Van Allen radiation belts, Academic American Encyclopedia, Acrete Pub. Co., 1980.

Akasofu, S.-I., Aurora, Merit Students Encyclopedia, Macmillan Pub. Co., 1981.

## Book Reviews

Omholt, A., The Optical Aurora, Physics and Chemistry in Space, Vol. 4, 198, Springer-Verlag, Berlin, 1971, $16.80.

Dyer, E. R. (ed.), Critical Problems of Magnetospheric Physics: Proceedings of the Joint COSPAR/IAGA/URSI Symposium held in Madrid, Spain, 11-13 May 1972, Planet. Space Sci., 22, 643, 1974.

IQSY Data Review: Geomagnetism, Annals of the IQSY, 66, 51, Survey of IQSY Observations and Bibliography, The MIT Press, 1970.

Kennel, C. F., L. J. Lanzerotti and E. N. Parker (ed.), Solar System Plasma Physics, Vol. I-III, North-Holland: Amsterdam and New York, 1979.

Eather, R. H., Majestic Lights, American Geophysical Union, Washington, D. C., 1980.

Alfvèn, H., Cosmic Plasma, Astrophysics and Space Science Library, 82, D. Reidel Pub. Co., Dordrecht, Holland, 1981, U.S. $39.50.

PUBLICATIONS (Cont'd)

Reports

Akasofu, S.-I., Effects of the variation of the temperature gradient in the upper atmosphere on the formation of the ionospheric layers, Sci. Rep. Tohoku Univ., Geophysics, 5, 123, 1953.

Akasofu, S.-I., Dispersion relation of magneto-hydrodynamic waves in the ionosphere and its application to the shock wave, Sci. Rep. Tohoku Univ., Geophysics, 8, 24, 1956.

Kato, Y. and S.-I. Akasofu, Outer atmospheric oscillation and geomagnetic micropulsation, Sci. Rep. Tohoku Univ. Geophysics, 7, 103, 1956.

Akasofu, S.-I., Hydromagnetic relationships between the sun and the earth, Sci. Rep. Tohoku Univ., Geophysics, 8, 23, 1957.

Akasofu, S.-I. and S. Chapman, The sudden commencement of geomagnetic storms, IAGA Symposium on Rapid Magnetic Variations, Utrecht, Holland, September 1-4, 1959.

Akasofu, S.-I. and S. Chapman, A study of magnetic storms and auroras, Sci. Rep. No. 7, Geophysical Institute, University of Alaska, UAG R-112, 1961.

Akasofu, S.-I., The magnetic storm of September 13, 1957, Geomagnetica, Published for the 50th Anniversary of the Observatorio Magnetico de S. Miguel, Azores, Servico Meteorologico Nacional, Lisboa, 1962.

Meng, C.-I., D. S. Kimball, and S.-I. Akasofu, The aurora and polar magnetic storms, Proc. 16th Alaskan Science Conference, Juneau 181, 1965.

Akasofu, S.-I., Model ring current belts, Univ. of Iowa Rep., 66-28, July, 1966.

Akasofu, S.-I., Geomagnetic storms and interpretations, Working Group IV-6, Transactions of the XIV General Assembly, St. Gall, Switzerland, IAGA Bulleetin No. 25, 1967.

Akasofu, S.-I., An outline for future studies of magnetospheric substorms, Substorm Events, ESRO SP-38, 11, ed. by J. Ortner and A. R. Moore, ESRO, 92-Neuilly-Sur-Seine, France, 1969.

Akasofu, S.-I. and P. D. Perreault, The geomgnetic storm of May 25-16, 1967, World Data Center A Upper Atmosphere Geophysics, Report UAG-5, 92, 1969.

Akasofu, S.-I. and K. Kawasaki, Geomagnetic disturbances (October 26-November 5, 1958) associated with the McMath Plage region 9740, World Data Center A Upper Atmosphere Geophysics, Report UAG-8, 1970.

PUBLICATIONS (Cont'd)

Kawasaki, K. and S.-I. Akasofu, Geomagnetic disturbances during the period of November 16-21, 1968 associated with the McMath Plage regions

9760, 9772 and 9780, World Data Center A Upper Atmosphere Geophysics, Report UAG-9, 1970.

Kawasaki, K., S.-I. Akasofu, F. Yasuhara and P. Perreault, The geomagnetic storm of March 8, 1970, World Data Center A Upper Atmosphere Geophysics, Report UAG-12, 1971.

Akasofu, S.-I., C. R. Wilson, L. Snyder and P. Perreault, Magnetic records from the meridian chain of observatories in the Alaskan sector, Geophysical Institute Report, UAG R-216, 1971.

Akasofu, S.-I., Auroral effects in the D region of the ionosphere, Possible Relationship Between Solar Activity and Meterological Phenomena, ed. by W. R. Bandeen and S. Moran, A symposium held at Goddard Space Flight Center, November 7-8, 1973, published by Scientific and Technical Information Office, NASA, 1975.

Kamide, Y. H. W. Kroehl, M. Kanamitsu, J. H. Allen and S.-I. Akasofu, Equivalent ionospheric current representations by a new method, illustrated for 8-9 November 1969 magnetic disturbances, World Data Center A, Solar-Terrestrial Physics, Report UAG-55, April 1976.

Akasofu, S.-I., Distinguishing the Pedersen and Hall Currents in the Ionosphere, Proceedings of the Finnish-American Auroral Workshop, August 17-20, 1981, in Oulu, Finland, ed. by L. Jalonen and T. Nygren, Report No. 37, The Finnish Academy of Science and Letters, Sodankylä Geophysical Observatory.