International Council of Scientific Unions

SPECIAL COMMITTEE
ON
SOLAR-TERRESTRIAL PHYSICS

76-4

President: Dr. Francis S. Johnson *Vice-President:* Dr. J. W. King *Secretary:* Dr. E. R. Dyer

INTERNATIONAL MAGNETOSPHERIC STUDY
J. G. Roederer, Chairman IMS Steering Committee
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WORLD DATA CENTER A FOR STP, D64 NOAA, BOULDER, COLORADO 80302, USA

IMS NEWSLETTER

CONTENTS

These monthly Newsletters give both plans and actualities for IMS programs, mainly the many campaigns which can benefit from support by other campaigns and by surface monitoring observations. Where appropriate these may coincide with the Special IMS Periods when satellite data in the magnetosphere will be most meaningful. Newsletter recipients -- mainly the IMS participants -- can help this self-coordination effort by providing timely news through their IMS Contacts to the TIMSCIE Office or volunteer data reports to the experimenters concerned. The closing date for this NL was March 31. ---JHA

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PROGRAM PLANS FOR APRIL 1976

Special IMS Periods

No Special IMS Periods in April were identified by the SSC or selected by the IMS Steering Committee at the Dec 1975 meeting. It has been suggested to the Chm of the Steering Committee that the coincidence of several launch windows for major programs of coordinated rocket, aircraft and surface observations during the time March 17 to April 4 could be the basis for declaring this 19-day interval a Special IMS Period. This period also includes the first ASHAY interval, March 21 to April 3 (SHIG/ASHAY WG-1 News Letter No 3, 31 Dec 1975, for details contact #0457, Gledhill).

Note also that April 13, 14, 15 are the Regular World Days on the International Geophysical Calendar when many programs concentrate their observations, data reduction and data exchange.

GBR Campaigns: (numbers refer to program details in IMS Bulletin No. 2 or in references below)

----------Phenomena-related Campaigns----------

--- to Apr 1; A-13; Heikkila; Ft Churchill; Rocket - E&B-fields, particles, see March notes
--- to Apr 1; #0356; Sheldon; Ft Churchill; Rocket - X-rays, E-fields, coordinated with A-13
--- to Apr 1; A-16; P.T. Berkey; Ft Churchill; Surface - ground auroral TV, coord with A-13
--- to Apr 3; #0183,0037,0305,0308,0028,0251; Haerendel, Storey, Studemann, Theile, Riedler, Mozer; Kiruna(ESRANGE); Rockets (2) - PORCUPINE Program, coordinated, see March notes
--- to Apr 3; #0164; Davis; Athens, Greece; Aircraft - video TV of artificial aurora, coord PORCUPINE
--- to Apr 3; #0312, 0243; Untiedt, Maurer; N. Scandinavia; Surface - mag. chains, coord PORCUPINE
--- to Apr 3; #0066; Siebert; Finland; Surface - geomag pulsations, coordinated with PORCUPINE
--- to Apr 3; #0228; Lange-Hesse; Scandinavia; Surface - backscatter radar, coord PORCUPINE
--- to Apr 3; #0155; DeForest; Geosta. orbit; Satellite - turn-on ATS-5 plasma exper, spec note below
--- to Apr 4; A-17; Heppner; Poker Flat; Rockets (4) - Barium thermite release, March notes
--- to Apr 30; #0400; Fitz (formerly Berning); Poker Flat; Rocket - e-accelerator, moon down
Apr 1 to Apr 30; #0149, 0288; Bullough, Rycroft; S Uist; Rockets (2) - ELF/VLF, E&B-fields, e- density
Apr 1 to Apr 30; #0104; Niles; Ft Wainwright; Balloons (4) - ion mass spectrometer
Apr 1 to May 31; A-18; Woolliscroft; S. Uist; Rockets (2) - +ion mass spectrometer, notes
*Apr 1 to May 31; A-19; Williams; S. Uist; Rocket - Lyman-α, e-density, coord, notes
*Apr 29 to May 15; #0070; Davis (formerly Vaiana); White Sands; Rocket - solar X-rays, spectrometer, notes

------Quasi-synoptic Observations involving Balloons, Rockets, Aircraft, Selected Surface Campaigns------

Apr 1...30; #0458; Charakchyan; Mirny, Murmansk, Moscow, Alma Ata ; Balloons - daily launch, cosmic rays
Apr 13 to Apr 15; #0004; Bauer; IISN; Surface - inco scat radar study thermal tides in 100-130 km region

----------Observing Plans for Temporary Surface Stations----------

--- through April 30; A-12; Crochet; Addis Ababa, Djibouti; Surface - E-fields in equatorial ionosphere
Apr 1 to Sep 30; #0115; R.W. Smith; Jordanstown; Surface -airglow interferometer, intermittant operation
(we have not received full information on Surface campaigns)

Notes on Program Plans for April 1976

* marks new or changed information from NL 76-3.

A-18; Woolliscroft, launch scheduled in Jan was postponed because of delay in experiment delivery. Now expects two launches at S. Uist in Apr and May window. See A-19 note.

A-19; Williams, also postponed to Apr-May because of delay in A-18 above. Launches will be coord.

#0070; Dr. J. M. Davis, American Science and Engineering, 955 Massachusetts Ave, Cambridge, MA 02139 USA, is observing solar imagery @ 8-60 A and spectra from 10-25 A. Analysis is jointly with Evans (same address as #0207).

#0115; R.W. Smith will operate airglow interferometer on intermittant schedule at Jordanstown, with observations at 557.7 and 630.0 nm.

Special note, #0155; DeForest and McIlwain arranged that plasma experiments on ATS-5 be turned-on in 2 intervals; the current one is Mar 18-Apr 3 on a 3-hourly schedule, weekends excluded.

General News

Notes from SCOSTEP Secretariat

A Special Meeting on IMS convened in Moscow from 10 to 16 March. Attending were members and consultants of the IMS Steering Committee, the Soviet IMS Commission and Directors of some Soviet Geophysical Institutes. A summary of draft agreements from this meeting may appear in a future IMS NL along with a more complete review of the proceedings. Beg on pg 4 of this NL is a detailed description of experiments on Soviet satellites Intercosmos 14 and Prognoz 4 which was tabled at the meeting.

Notes from IMS Contacts

USA. R.H. Manka sends the following items:
1. Satellites SOLRAD 11 A and B were successfully launched on 15 March 1976, at 0238 UT. The spacecraft are in a 35135 km radius circular-equatorial orbit and are currently being phased toward 180 deg separation. More details are promised for NL 76-5. Experiment details are in SSC's 1975 Report on Active & Planned Spacecraft and Experiments, pg 127.

2. M. Baron (0067) informs us that Chatanika Incoh Radar has operated supporting 5 Poker Flat rocket launches during Jan-Mar (see Actualities, pg 5).

NOTICE: Three IMS related meetings in conjunction with the Spring Meeting of American Geophysical Union in Washington. Postdeadline IMS Information Session Wed 14 Apr, 5-6 pm to summarize status of arrays, data and funding. AGU All-Union Session on Research in Geophysics, Mon 12 Apr at 1:30 pm. Directors (or reps) of NASA, ERDA, USGS, NOAA, NSF, & DODR&E will describe agency programs, including IMS. Fri 16 Apr (day after AGU end) meeting at NSF to discuss technical aspects of US/Canada IMS Magnetometer chains. All interested participants invited, 1800 G St, NW, Rm 338 from 9 am to 2 pm.

Europe. P. Simon has informed us that ESA is sponsoring a meeting on European IMS rocket and balloon programs in the auroral zone. To be held at Schloss Elmau, FRG, from 3 to 7 May. He expects to use this opportunity to improve the collection of information on European IMS plans and details of actualities such as those given on page 5.

We regretfully relay news from G. Haerendel that launch of PORCUPINE I on 30 Mar 2027 UT was unsuccessful due to propulsion sys failure at the end of burning phase. No scientific data were obtained. We do not know the prospects for PORCUPINE II now. Launch information relay via the TIMSCIE Office had been arranged to coordinate with C. McIlwain (same address as #0155) experiment on satellite ATS-6.

PROGRAM PLANS FOR MAY 1976

Special IMS Periods

No special IMS intervals were selected during the month of May 1976, as of 1 April NL printing. See calendar on page 6 for days of special observational interest for particular programs. Next special IMS interval is scheduled for June 23-26. Note that Regular World Days in May are May 18, 19 and 20.

GBR Campaigns: (numbers refer to program details in IMS Bulletin No 2 or in references below)

----------Phenomena-related Campaigns----------

--- to May 15; #0070; Davis (formerly Vaiana); White Sands; Rocket - solar X-rays, spectrometer, notes
*--- to May 31; A-18; Woolliscroft; S. Uist; Rockets (2) - +ion mass spectrometer, coord A-19 Apr note
*--- to May 31; A-19; Williams; S. Uist; Rocket - Lyman-α, e-density, coord A-18, Apr notes
May 1 to Jun 30; #0090; Horton; Woomera; Rockets (2) - 1, neutral atm species; 2, airglow, ozone, notes
May 27 to Jun 10; A-22; Jefferies (formerly Peek); Kauai; Rocket - Ba injection and other exper, notes

------Quasi-synoptic Observations involving Balloons, Rockets, Aircraft, Selected Surface Campaigns-------

May 1...31; #0458; Charakchyan; Mirny, Murmansk, Moscow, Alma Ata; Balloons - daily launch, cosmic rays
May 5 to Aug 25; #0162; Y. Corcuff; Gen Belgrano, Halley Bay; Surface; weekly VLF obser, see notes
May 18 to May 20; #0004; Bauer;IISN; Surface - E-field meas in quiet time, dates may change

----------Observing Plans for Temporary Surface Stations----------

--- to Sep 30; #0115; R.W. Smith; Jordanstown; Surface - airglow interferom, intermittant operation
(we have not received full information on Surface campaigns)

Notes on Program Plans for May 1976

* marks new or changed information from NL 76-3

#0090; Horton has two launch programs:(1) Similar to Feb-Mar launch carrying mass spectrometer, to study neutral atmospheric species to 140 km; (2) To study airglow and ozone with dusk/dark launch.

A-22; Jefferies (formerly Peek) launching Ba inject exper previously cancelled at Poker Flat (A-14). Injection perpendicular to local B-field. Also carries experiments of Koons (A-20), electrostatic exp; and whalen (see A-13 note), particles.

#0162; Y. Corcuff, Charcosset, Cazeneuve, Bullough participating in IPPDYP (see NL 76-3, pg 4) for program of coordinated VLF direction finding obs at Gen Belgrano and Halley Bay. Observations on each Wednesday from 0200-0300 UT, May - August.

PROGRAM PLANS FOR JUNE 1976

Special IMS Periods

Jun 23 1400 UT to Jun 26 1700 UT IMP-H, Vela 5B, Vela 6A - Neutral Sheet

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GBR Campaigns: (numbers refer to program details in IMS Bulletin No. 2 or in references below)

----------Phenomena-related Campaigns----------

--- to Jun 10; A-22; Jefferies (formerly Peek); Kauai; Rocket - Ba injection and other exper, notes
--- to Jun 30; #0090; Horton; Woomera; Rockets (2) - 1, neutral atm species; 2, airglow, ozone, notes
Jun 1 to Jun 30; #0311; Ungstrup; Andoya; Balloons (4) - E-fields, X-rays, riometers, see note below
Jun 1 to Jun 30; #0263,0311; Olesen, Ungstrup; Sdr Stromfjord; Rockets (2) - Complex exper, see note

------Quasi-synoptic Observations involving Balloons, Rockets, Aircraft, Selected Surface Campaigns------

Jun 1 to Aug 15; A-20; Koons, et al; New Zealand area and N. conjugate; Surface- VLF exper, satel, note
Jun 1...30; #0458; Charakchyan; Mirny, Murmansk, Moscow, Alma Ata; Balloons - daily launch, cosmic rays
Jun 2, 9, 16, 23, 30; #0162; Y. Corcuff; Gen Belgrano, Halley Bay; Surface; weekly VLF obser see May note
Jun 22 to Jun 24; #0004; Bauer; IISN; Surface - General thermospheric meas by incoh scat radar network

----------Observing Plans for Temporary Surface Stations----------

--- to Sep 30; #0115; R.W. Smith; Jordanstown; Surface - airglow interferom, intermittant operation
(we have not received full information on Surface campaigns)

Notes on Program Plans for June 1976

Refined Times of Special IMS Periods for June. Start and end times of the periods listed above and in the SCOSTEP Special Announcement shift a few hours as the result of recomputations given in the IMS Satellite Situation Center Report No 6 (pg 14) by Vette. Refined UT times are (changed times underlined): Jun 23 1600 to Jun 26 1700.

#0311; Ungstrup, 4 balloons to launch from Andoya and drift N. of Iceland and across Greenland. Will carry exper to meas E-fields, X-rays and riometers. Telemetry to Andoya, Iceland and W. coast of Greenland.

#0263, 0311; Olesen and Ungstrup, 2 rocket exper to launch from Sdr Stromfjord to meas: E-field; ELF, VLF waves; ionospheric currents; particle precipitation; plasma density and temperature; daughter payload will meas part precip & plasma density. Launch criteria: (1) cleft (cusp) near and N. of Sdr Stromfjord, (2) Strong ionospheric currents above Sdr Stromfjord and Godhavn with backscatter echoes on 12 MHz & slant sporadic E traces indicating ionosphere with 2-stream instability of Farley and Buneman.

A-20; Koons, Morgan, Dowden (0167), Unwin (0313), Keys (0323) multi-national VLF program. VLF signals from portable transmitter to broadcast from New Zealand. Receivers to operate at Dunedin NZ, and in N conjugate region near Cold Bay, Al. Photometers and riometers at Lauder, NZ. VLF & particle data to be obtained from satel ISIS II and SSS when over transmitter & conjugate region.

NEW PROGRAM

R.A. Greenwald, MPI fur Aeronomie, sends a brief description of his 2-station Scandinavian auroral backscatter radar project. The Trondheim site is to be operational by 1 July and the Sauvamaki site by early 1977. Greenwald brochure in preparation.

Report on USSR Satellites Intercosmos-14, Prognoz 4

J. Vette, IMS Satellite Situation Center, relayed the following information provided by the Soviet IMS Commission at the recent Special Meeting in Moscow (see SOCSTEP Secretary note in General News). The format presented here is that used in the series of Reports of Active and Planned Spacecraft distributed by the IMS/SSC.

Intercosmos 14

Spacecraft Common Name - Intercosmos 14
NSSDC ID - 75-115A
Last Reported State - Launched and Operation Normal
Launch Date - 12/11/75
Sponsoring Country/Agency - USSR/Intercosmos
Initial Orbit Parameters
Orbit Type - Geocentric Epoch Date - 12/11/75
Orbit Period - 105.2 min Inclination - 74.0 deg
Periapsis - 345 km alt Apoapsis - 1707 km
Project Personnel
Scientific Coordinator - J.I. Likhter, IZMIRAN, Acad of Sci (AS), Academgorodok, Moscow Reg, USSR
Spacecraft Brief Description
The spacecraft is a contribution to the IMS program involving the scientific community of Socialist countries. The spacecraft contains five experiments which provide measurements of the ELF and VLF emissions in the magnetosphere, variation of ionospheric plasma density and electron temperature along the orbit, variations of total electron content in the ionosphere, and energy and penetration characteristics of meteor showers. The spacecraft is magnetically oriented, contains both a standard telemetry system and a wide band system which transmits real-time data from a four component ELF/VLF receiver and a wide-band tape recorder (0.05-15 kHz). A large number of ground-based observatories in the Socialist countries are involved in measuring ionospheric conditions, geomagnetic field variations and VLF emissions in conjunction with the satellite program.

Experiment Name - Spherical Ion Traps
NSSDC ID - 75-115A-01
Last Reported State - Launched and operation normal at standard data acquisition rate since 12/11/75.
Experiment Personnel
PI-G.L. Gdalevich, Sp Res Inst, AS, Moscow, USSR
PI-R.B. Serafimov, Sp Res Div, AS, Sofia, Bulgaria
Experiment Brief Description
The experiment consists of two spherical ion traps located on booms which extend from opposite points of the spacecraft body so that removal of spacecraft velocity effects on the measurement of positive ion density can be accomplished.
The spatial resolution of the measurement is about 10m in real-time mode & 500m in storage mode.

Experiment Name - Perpendicular and Parallel e-Temp
NSSDC ID - 75-115A-02
Last Reported State - Launched and operation normal at standard data acquisition rate since 12/11/75.
Experiment Personnel
PI-K.I. Gringauz, Spa Res Inst, AS, Moscow, USSR
PI-J.I. Schmilauer, Geop Inst, AS, Prague, Czech
Experiment Brief Description
The instrument has two flat mutually perpendicular sensors for measuring electron temp along and perpendicular to the geomagnetic field. The dynamic range of the device is 400-10,000 deg K. The ratio of the two temperatures will also be measured.

Experiment Name - ELF/VLF Receiver
NSSDC ID - 75-115A-03
Last Reported State - Launched and operation normal at standard data acquisition rate since 12/11/75.
Experiment Personnel
PI-J.I. Likhter, IZMIR, AS, Acaddemgorodok, USSR
PI-P. Triska, Geop Inst. AS, Prague, Czech
Experiment Brief Description
The receiver detects the signals on antennae which allow measurement of the electric and magnetic fields parallel and perpendicular to the direction of the geomagnetic field. The receiver covers the range 0.05-20 kHz. The perpendicular magnetic field channel contains a 10-frequency spectrum analyzer for ELF/VLF emissions. Both electric field receiver channels have two narrow band filters at 0.72 and 4.0 kHz. Self- and mutual-impedance of the spherical probe electric antennae are measured.

Experiment Name - Micrometeorite Detector
NSSDC ID - 75-115A-04
Last Report State - Launched and operation normal at standard data acquisition rate since 12/11/75.
Experiment Personnel
PI-T.N. Nazarova, Geochem Inst, AS, Moscow, USSR
PI-I. Zakharov, Geop Inst, AS, Prague, Czech
PI-I. Apathy, Central Inst Phys Inves, AS, Budapest, Hungary
Experiment Brief Description
Micrometeorite detector will give statistical information particularly during the occurrence of intensive meteor showers.

Experiment Name - Four Frequency Beacon
NSSDC ID - 75-115A-05
Last Reported State - Launched and operation normal at standard data acquisition rate since 12/11/75.
Experiment Personnel
PI-J.I. Schmilauer, Geoph Inst, AS, Prague, Czech
Experiment Brief Description
The instrument consists of a transmitter which radiates at the four coherent frequencies: 20.004, 40.008, 160.036, and 360.072 MHz and is used to measure total electron content between the spacecraft and the ground receiving station.

Prognoz 4

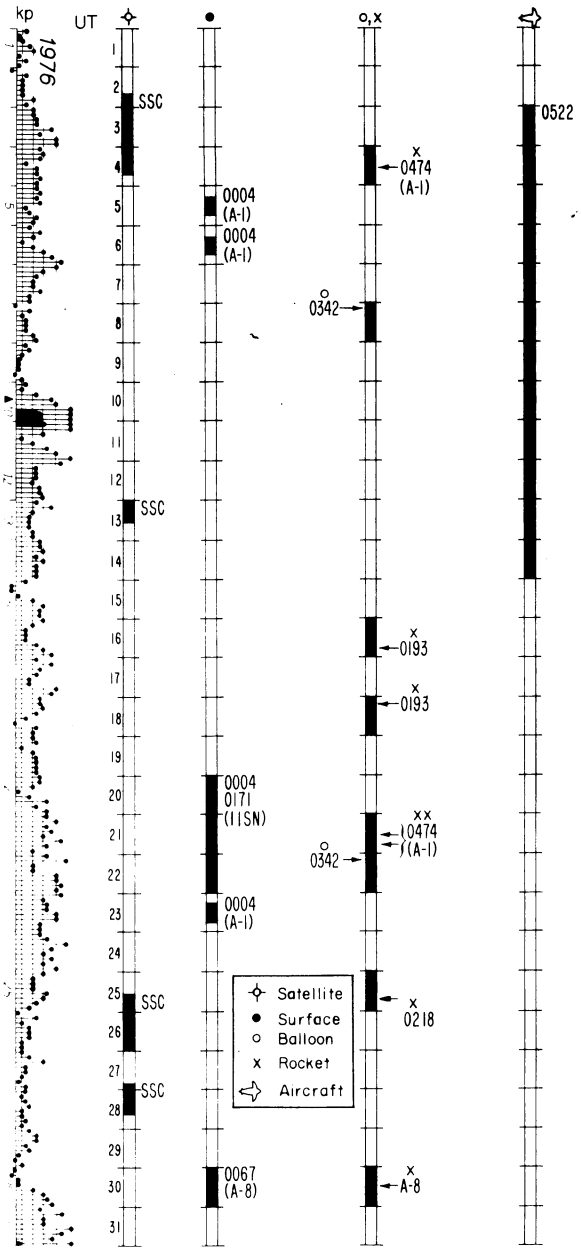
Spacecraft Common Name - Prognoz 4
NSSDC ID - 75-122A
Last Reported State - Launched and Operation Normal
Launch Date - 12/22/75
Sponsoring Country/Agency - USSR/Acad of Sci (AS)
Initial Orbit Parameters
Orbit Type - Geocentric Epoch Date - 12/22/75
Orbit Period - 5740.0 min Inclination - 65.0 deg
Periapsis - 634.0 km alt Apoapsis - 199,000.0 km
Project Personnel
Scientific Coordinator - A.A. Galeev, Spa Res Inst AS, Moscow, USSR
Spacecraft Brief Description
The space craft is a contribution to the IMS program which carries experiments to investigate solar corpuscular, X-ray, and radio emissions as well as to measure energetic particles, plasma and magnetic fields in the magnetosphere and the interplanetary medium. In a cooperative program with scientists of the Socialist countries, sounding rockets will be launched to altitudes greater than 500 km to study the interaction of shortwave solar radiation with the atmosphere and ionosphere and to make in situ measurements of various parameters in these regions of space.

Experiment Name - Three Axis Fluxgate Magnetometer
NSSDC ID - 75-122A-01
Last Reported State - Launched and operation normal at standard data acquisition rate since 12/22/75.
Experiment Personnel
PI-Sh. Sh. Dolginov, IZMIRAN, AS, Academgorodok, Moscow Region, USSR
Experiment Brief Description
The instrument is a three axis fluxgate magnetometer with a single range sensitive to field intensities of 0 to 600 gammas. The residual field is approximately 1 gamma.

Experiment Name - Plasma Detector
NSSDC ID - 75-122A-02
Last Reported State - Launched and operation normal at standard data acquisition rate since 12/22/75.
Experiment Personnel
PI-K.I. Gringauz, Spa Res Inst, AS, Moscow, USSR
Experiment Brief Description
The instrument consists of differential ion probe that measures the spectrum between 0.1 and 4.4 keV and an electron probe which measures the density and temperature for energies less than 300 eV. Because of the nature of the orbit, solar wind, magnetospheric, and plasmasphere plasma parameters will be obtained.

Experiment Name - Solar X-Rays
NSSDC ID - 75-122A-03 (continued bottom of pg 5)

JANUARY 1976 CAMPAIGN ACTUALITIES
(Preliminary)



NOTES ON ACTUALITIES

Confirmed IMS campaign actualities for Jan 1976 are shown to the left and listed below, followed by early information for Feb and Mar. Experimenters please relay actualities information to TIMSCIE Office for future editions of this page.

#0522; Truttse, aircraft flights on Jan 3-14 from 50-70 deg N (Moscow region) at 2200-0600 LT with airglow photometers.

#0474; Rees, 3 rocket launches from Aresonillo (N37,353E). Daytime lithium thermite releases for neutral wind profile from 80-140 km in support of Offermann (A-1) Winter Anomaly project. Launches were at:
Jan 4 1600 UT; Jan 21 1555 UT and 1813 UT.

#0004; Bauer, incoherent scatter radar at St Santin was operating to support Offermann project (A-1) as well as participating in IISN interval observations. A-1 support times: Jan 5 0730-1730 UT, Jan 6 0730-1730 UT and Jan 23 0630-1730 UT. Data quality best for last period. IISN observations Jan 20 0300 to 22 1900 UT and also Feb 17 0300 to Feb 19 1900 UT. Good quality data.

#0342; Kulkarni, balloons from Aspendale on Jan 8 and 22 at mid-day. Carrying ozonesonde.

#0193, et al; Hirao, et al,2 launches at Kagoshima (1) rocket K-9M-54 at 0600 LT, Jan 17 to 367 km observed e-dens, thermal e-spect, e-temp, conjugate photoelectrons, airglow and geocoronal and interplanetary UV.
(2) rocket K-10-12 at 1420 LT, Jan 18 to 216 km observed E-field, energetic particle spect, solar LYA, neutral wind, e-dens, e-temp, ion comp, UV albedo and plasma wave excitation.

#0218, et al; Kodama, et al, launched rocket S-210 JA22 from Syowa at 2320 LT, Jan 25 to 119 km. Observed e-dens/temp, e-energy spect, NO dens.

A-8; Winckler, ECHO-IV launch from Poker Flat at 0944 UT, Jan 30. Complex rocket experiment with supporting ground auroral TV at launch site.

#0067, Baron, informs us that Chatanika incoherent scatter radar supported A-8 above and 4 other Poker Flat launches given below, as indicated.

#0404; Cloutier, 2 launches at Poker Flat: 0705 UT Feb 18 and 1045 UT Mar 1; E&B-fields, particles. Supported by Chatanika incoherent scatter radar.

#0427, et al; Kamada, et al, rocket S-310JA1 launch at 0945 UT Feb 13 from Syowa to 215 km altitude observed plasma waves, e-dens and e-energy spect

#0400; Berning (now Fitz), Blank, Ulwick, Stair at Poker Flat launched EXCEDE/SWIK 0540 UT Feb 26. Chatanika supported with observations.

#0328; Christensen, FERRET launched at Poker Flat 1212 UT Feb 26, carried instruments to measure EUV, ion mass spectrometer, ion and e-probes, photometers and magnetometer. Chatanika support.

ISS; Ojata (same address as #0185) project manager for Japanese IMS satellite launched 2130 UT, 29 Feb. To observe ionosphere, radio noise, ion/e-density/temperature and ion composition.

#0089, 0474; Holmgren, Rees, launch at Kiruna on 2 Mar at 2349 UT. TNT-Cesium and Tri-methyl-aluminium release. Injection-Trigger project: E-fields and neutral winds at 100-160 km.

#0096; Kreplin, launch of SOLRAD 11 A and B at 0238 UT on 15 March. See SSC Report on Active and Planned Spacecraft and Experiments, and detailed information in IMS Bulletin No 2 (0096).

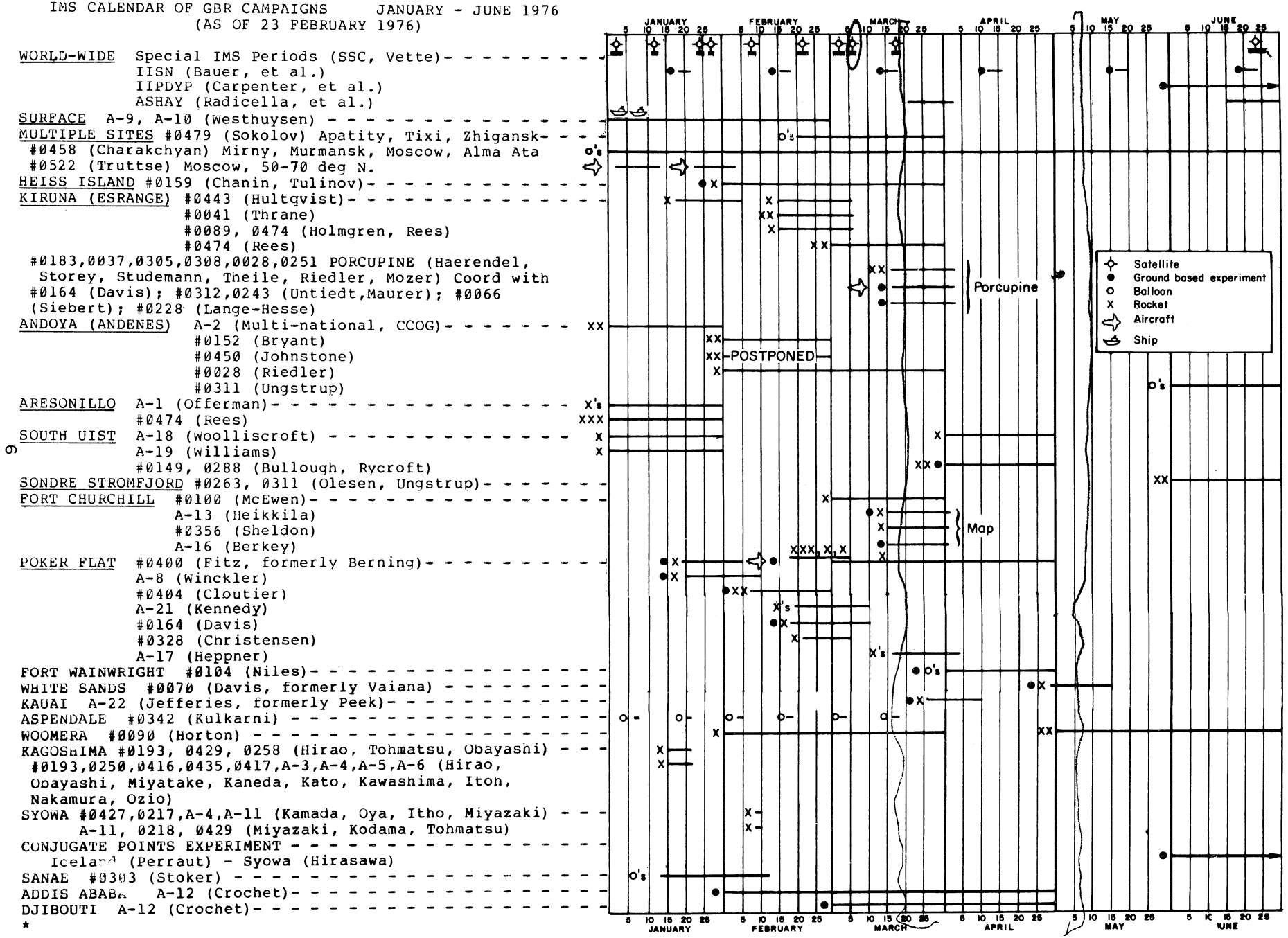
(Continued from pg 4)

Last Reported State - Launched and operation normal at standard data acquisition rate since 12/22/75.
Experiment Personnel
PI-S.Ye. Kacharov, Leningrad Phys-Tech Inst, AS, Leningrad, USSR
Experiment Brief Description
The instrument measures X-rays in the energy range 2 - 511 keV.

Experiment Name-Energetic Particles & Charge Composition
NSSDC ID - 75-122A-04
Last Reported State - Launched and operation normal at standard data acquisition rate since 12/22/75.
Experiment Personnel
PI-Yu. I. Logachev, Res Inst Nuc. Phys, Moscow State Univ, Moscow, USSR
PI-I.A. Sanenko, same address
Experiment Brief Description
The instrument consists of various detectors to measure the spectra, anisotropy and charge composition at energies above 500 Mev per nucleon is obtained at charge values between Z=2 & 15 35 & 50.

Experiment Name - Kilometric/Hectometric Receiver
NSSDC ID - 75-122A-05
Last Reported State - Launched and operation normal at standard data acquisition rate since 12/22/75.
Experiment Personnel
PI - Slysh, Spa Res Inst, AS, Moscow, USSR
PI - Grigoreva, GAISh
Experiment Brief Description
The instrument is a receiver-antenna system that measures radio emission in the 50-1000 Khz band in 16 frequency intervals.

IMS CALENDAR OF GBR CAMPAIGNS JANUARY - JUNE 1976
(AS OF 23 FEBRUARY 1976)



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