

APPENDIX E

Grants for the International Geophysical Year Program Fiscal Year 1957

AURORA AND AIRGLOW

Air Force Cambridge Research Center

Operation of 6-Station Antarctic Aurora and Airglow Network.....	\$2, 990
Operations at Sacramento Peak and Tonanzintla, Mexico.....	23, 000
Operations at Thule, Greenland.....	26, 455
Operations at 4 U. S. Stations and Saskatoon, Canada.....	6, 000
Arctic Ice Floe Auroral Observations.....	1, 550

University of Alaska

Procurement of All-Sky Cameras.....	3, 000
Aurora and Airglow Operations in Alaska.....	217, 030
Ionospheric Absorption, Cosmic Noise Method—Alaska.....	56, 770

Arctic Institute of North America

Operation of 6-Station Antarctic Aurora and Airglow Network.....	46, 360
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Cornell University

Visual Aurora Observation Program.....	20, 300
Aurora Data Reduction and Processing.....	81, 780
Headquarters for All-Sky Cameras in United States.....	39, 064
Operation of Auroral Radar at Ithaca.....	20, 898
Operation of 6 All-Sky Cameras in United States.....	10, 600

National Bureau of Standards

Procurement of Recording Photometers.....	1, 586
Airglow Headquarters and Operation of 3 Stations.....	92, 635

Stanford University

Auroral Radar Operations, Western United States.....	42, 485
Meteor Radar Observations in the Antarctic.....	2, 305
Ionospheric Absorption, Cosmic Noise Method—West.....	39, 330

COSMIC RAYS

California Institute of Technology

Balloon Flights With Ionization Chambers.....	23, 500
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University of California

Construction and Operation of Air Shower Detectors.....	3, 300
Time Variations of Neutron, Hard, and Soft Cosmic Ray Components	22, 700

University of Chicago

Measurements of Neutron Intensity From Antarctic Icebreaker.....	\$14,531
Measurements of Composition and Intensity of Primary Cosmic Radiations	92,415
Isotopic Constitution of Cosmic Radiation at Balloon Altitudes.....	10,700

Franklin Institute

Distribution of Heavy Primary Cosmic Rays.....	16,000
Correlation of Solar Activity With High Altitude Primary Cosmic Ray Intensity.....	45,000
Shipboard Neutron Monitor Station.....	7,000
Construction and Operation of Neutron Monitor at Thule.....	12,000

State University of Iowa

Solar Effects on Cosmic Rays at High Altitude in the Arctic.....	16,350
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University of Maryland

Construction and Operation of Cosmic Ray Monitor Telescope in the Antarctic.....	14,127
Construction and Operation of Cosmic Ray Monitor Telescope in the Arctic.....	8,208
Study of High-Speed Cosmic Ray Fluctuations.....	48,300

University of Minnesota

Measurement of Cosmic Ray Intensity at High Altitudes.....	52,450
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University of Missouri

Measurement of Zenith-Angle Dependence of High-Energy Mu-Mesons.....	8,000
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University of Nebraska

Atmospheric, Geomagnetic, and Solar Influences on the Mu-Meson Component of Cosmic Radiation.....	14,140
Atmospheric, Geomagnetic, and Solar Influences on the Nucleonic Components of Cosmic Radiation.....	8,275

University of New Mexico

Studies of the Semi-Diurnal Planetary Variation of Atmospheric Pressure.....	17,000
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New York University

Construction and Operation of Neutron Monitor in Alaska.....	23,300
Time Variations of Primary Cosmic Radiation Spectrum.....	28,200
Search for Neutrons of Solar Origin.....	27,200

University of Puerto Rico

Variation of Cosmic Ray Ionizing Particles During Solar Flares.....	6,800
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University of Rochester

Energy and Charge Spectrum of Primary Cosmic Radiation.....	5,000
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Southern Illinois University

Heavy Primary Cosmic Rays.....	2,000
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University of Washington

Emulsion Studies of Heavy Primary Cosmic Rays..... \$1, 500

Dr. Herman Yagoda

Study of Low-Energy, Heavy Primary Cosmic Rays Near Magnetic Poles..... 1, 500

GEOMAGNETISM

Air Force Cambridge Research Center

Sub-Audio-Frequency Geomagnetic Fluctuations..... 30, 000

University of California

Operations at Jarvis and Palmyra Islands..... 31, 000

Carnegie Institution of Washington

Operation of South American Network..... 22, 500

U. S. Coast and Geodetic Survey

Operation of Geomagnetic Headquarters..... 40, 100

Operation of Magnetic Observatories at 3 Antarctic Stations..... 1, 400

Operation of Western Pacific Magnetic Observatories..... 61, 750

Operation of East-West United States Geomagnetic Network..... 26, 500

Operation of North-South Alaska Geomagnetic Network..... 24, 400

Magnetic Gradient Studies in Alaska..... 2, 600

Operation of Rapid-Run Auxiliary Magnetographs..... 42, 300

Procurement and Operation of Visible-Recording Magnetic Variometers..... 11, 300

Equipment for Jarvis and Palmyra Magnetic Stations..... 4, 500

Operations at Antarctic Knox Coast Station..... 18, 450

Operations at Antarctic Cape Adare Station..... 625

Equipment for South American Geomagnetic Network..... 20, 000

GLACIOLOGY

American Geographical Society

Observations in Southern Alaska..... 13, 725

Glacier Photogrammetry and Mapping..... 66, 700

Arctic Institute of North America

Antarctic Glaciological Personnel..... 73, 850

Operation of Glaciology Headquarters..... 16, 450

Glaciology Program, Mt. Michelson, Alaska..... 45, 115

Antarctic Glacial Geology..... 11, 100

Department of the Army

Arctic Logistics..... 35, 000

California Institute of Technology

Glacier Dynamics, Blue Glacier, Olympic Mountains, Wash..... 10, 800

University of Washington

Glacial Meteorology, Blue Glacier..... 37, 260

Arctic Sea Ice Physics..... 18, 500

GRAVITY MEASUREMENTS

<i>Arctic Institute of North America</i>	
Antarctic Traverse Personnel.....	\$4, 760
<i>University of California</i>	
Mean Rigidity of the Earth.....	5, 100
<i>Columbia University</i>	
Procurement of Gravimeter for the Antarctic.....	1, 000
Submarine Pendulum Measurements of Gravity.....	40, 000
Submarine Gravity Measurements.....	55, 000
<i>University of Wisconsin</i>	
Procurement of Gravimeter for the Antarctic.....	3, 000
Gravimeter Measurements.....	32, 520
<i>Woods Hole Oceanographic Institution</i>	
Pendulum Measurement of Gravity.....	15, 950

IONOSPHERIC PHYSICS

<i>Air Force Cambridge Research Center</i>	
Amateur Participation in IGY Ionospheric Physics Program.....	50, 000
<i>University of Alaska</i>	
Ionospheric Absorption, Cosmic Noise Method—Alaska.....	15, 300
<i>Dartmouth College</i>	
Atmospheric Whistler Program, Eastern Area.....	95, 300
Sweep-Frequency Backscatter Measurements.....	28, 000
Ionospheric Absorption, Cosmic Noise Method—Eastern Area.....	7, 600
<i>National Bureau of Standards</i>	
Operation of Antarctic 6-Station Ionospheric Network.....	79, 600
Personnel Training and Data Quality Control.....	18, 530
Equatorial VHF Ionospheric Forward-Scatter Measurements.....	39, 400
Radio Noise Measurement.....	3, 100
<i>Pennsylvania State University</i>	
Ionospheric Absorption—Pulse Method.....	16, 200
Ionosphere True Height Determination.....	18, 800
<i>Stanford University</i>	
Atmospheric Whistler Program, Western Area.....	118, 000
Fixed-Frequency Backscatter Measurements.....	202, 100
<i>University of Virginia</i>	
Radio Star Scintillations and Atmospheric Winds.....	11, 900

LONGITUDE AND LATITUDE

<i>U. S. Coast and Geodetic Survey</i>	
Operation of Hawaiian Station.....	11, 000

METEOROLOGY

<i>Smithsonian Institution</i>	
Earth Albedo Observations.....	20, 953

U. S. Weather Bureau

Operation of Antarctic 6-Station Meteorological Network.....	\$150,485
Cooperative Operations of South America Upper Air Observations Stations	70,800
High Altitude Rawinsonde Observations.....	212,000
Operation of Antarctic Weather Central.....	49,160
Arctic Ice Floe Meteorology.....	78,500
Standardization of Ozone Spectrophotometers.....	16,400

OCEANOGRAPHY

University of California

Operation of Pacific Island Oceanographic Observatories.....	142,900
Deep Current Program, Pacific Ocean.....	362,830
CO ₂ Analysis and Radiochemistry of Sea Water.....	55,840

Columbia University

Operation of Atlantic Island Oceanographic Observatories.....	68,625
Deep Current Program, Atlantic Ocean.....	175,570
CO ₂ Analysis and Radiochemistry of Sea Water.....	54,875

Department of the Interior

Operation of Pacific Island Oceanographic Observatories.....	11,300
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Texas Agricultural and Mechanical College

Deep Current Program, Atlantic Ocean.....	46,055
CO ₂ Analysis and Radiochemistry of Sea Water.....	25,000

University of Washington

Operation of North Pacific Island Oceanographic Observatories....	11,400
Deep Current Program, Pacific Ocean.....	24,675
CO ₂ Analysis of Sea Water.....	16,000
Thermal Budget of Arctic Sea Ice.....	45,000

Woods Hole Oceanographic Institution

Deep Current Program, Atlantic Ocean.....	177,245
CO ₂ Analysis and Radiochemistry of Sea Water.....	22,750
Arctic Oceanography.....	6,000

ROCKETRY

University of Michigan

Scientific Instrumentation for Aerobee Rockets.....	75,500
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Office of Naval Research

Rocket Program in the Pacific San Diego High Area.....	100,000
Aerobee Rocket Program at Fort Churchill, Canada.....	13,064

SEISMOLOGY

Arctic Institute of North America

Personnel for Antarctic Stations and Traverse Parties.....	3,070
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California Institute of Technology

Study of Crustal Strain Accumulation.....	59,200
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University of California

Seismic Sea Exploration of Southeast Pacific Ocean.....	42,500
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Carnegie Institution of Washington

Seismic Exploration of Continental Structure-----	\$34,050
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U. S. Coast and Geodetic Survey

Antarctic Telescismic Measurements-----	4,100
Pacific Island Seismograph Measurements-----	9,900

Columbia University

Seismic Exploration of Atlantic Ocean-----	13,820
Study of Long-Period Seismic Waves-----	37,200
Study of Lg Phase-----	7,700
Arctic Seismology-----	7,500

University of Wisconsin

Seismic Exploration of Coastal Structure-----	20,400
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SOLAR ACTIVITY

University of California

Flare and Plage Patrol—Mt. Wilson-----	10,000
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University of Hawaii

Solar Radio Noise Patrol-----	2,750
Solar Activity Flare Patrol-----	5,000

High Altitude Observatory

Instrumentation for Indirect Detection of Flares-----	5,000
Operation at Boulder and Climax Observatories-----	15,500
Rapid Data Presentation-----	6,800

University of Michigan

High Resolution Profiles of Hydrogen Alpha in Solar Flares-----	7,750
Flare Patrol Operations-----	7,650

Office of Naval Research

Procurement of Flare Patrol Instruments and Filters-----	1,200
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WORLD DAYS

National Bureau of Standards

Operation of United States and World Warning System-----	115,100
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GENERAL RELATED SCIENTIFIC SUPPORT

National Academy of Sciences

U. S. IGY Contribution to International Council of Scientific Unions-----	25,000
Antarctic Scientific Supervision Costs-----	200,000
IGY Regional Programs Office-----	33,700
IGY Scientific Inspection and Coordination-----	30,000
IGY Technical Publications-----	93,480

U. S. Weather Bureau

Antarctic Planning Staff-----	18,000
Procurement of Miscellaneous Supplies for Antarctic Bases-----	24,500

WORLD DATA CENTER

University of Alaska

Operation of Primary Data Archive for Aurora-----	\$92, 690
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American Geographical Society

Operation of Primary Data Archive for Glaciology-----	36, 093
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U. S. Coast and Geodetic Survey

Operation of Primary Data Archive for Geomagnetism, Gravity, and Seismology-----	58, 200
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Cornell University

Operation of Primary Data Archive for Aurora-----	40, 750
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High Altitude Observatory

Operation of Primary Data Archive for Solar Activity-----	40, 250
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University of Minnesota

Operation of Primary Data Archive for Cosmic Rays-----	31, 205
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National Academy of Sciences

Operation of U. S. World Data Center Coordination Office-----	54, 840
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National Bureau of Standards

Operation of Primary Data Archive for Airglow and Ionosphere---	46, 275
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Texas Agricultural and Mechanical College

Operation of Primary Data Archive for Oceanography-----	26, 628
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U. S. Weather Bureau

Operation of Primary Data Archive for Meteorology-----	12, 000
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EARTH SATELLITE—SCIENTIFIC EXPERIMENTS

Department of the Army

Instrumentation for Meteorological Observations-----	58, 000
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California Institute of Technology

Instrumentation for Cosmic Light and Radiation Measurements---	34, 500
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Franklin Institute

Instrumentation for Measurement of Flux of Cosmic Ray Nuclei---	15, 000
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State University of Iowa

Instrumentation for Cosmic Ray Observations-----	38, 525
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University of Maryland

Instrumentation for Measurement of Meteoric Dust Erosion of Satellite-----	24, 150
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Office of Naval Research

Instrumentation for Environmental Measurements-----	293, 500
Instrumentation for Solar Lyman Alpha Measurements-----	223, 500
Instrumentation for Magnetometer Measurements-----	112, 000
Satellite Special Equipment and Engineering Services-----	187, 500

Research Institute for Advanced Studies

Instrumentation for Measurement of Flux of Cosmic Ray Nuclei	\$15,000
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University of Wisconsin

Instrumentation for Radiation Balance Experiment	58,600
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EARTH SATELLITE—RADIO TRACKING

Office of Naval Research

Equipment Procurement for Radio Tracking Stations	5,500,000
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Orbit Computations Using Radio Data	463,000
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EARTH SATELLITE—TELEMETERING OF SCIENTIFIC DATA

Office of Naval Research

Telemetering of Scientific Data	846,000
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EARTH SATELLITE—SCIENTIFIC COORDINATION

National Academy of Sciences

Scientific Coordination of Earth Satellite Program	4,400
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EARTH SATELLITE—OPTICAL TRACKING

Smithsonian Institution

Equipment Procurement and Installation for Optical Tracking Stations	445,275
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Operation of Optical Tracking Stations	50,600
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Visual Observing Program	10,000
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Operation of Computation and Analysis Center	20,000
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Administration of Optical Tracking Program	60,000
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\$14,695,997