

TABLE DES MATIÈRES

M. NICOLET, La thermosphère	11
E. B. MEADOWS and J. W. TOWNSEND, Jr., Diffusive separation in the Winter night time Arctic upper atmosphere 112 to 150 km	27
Francis S. JOHNSON, Temperatures in the high atmosphere	37
T. A. CHUBB, E. T. BYRAM, H. FRIEDMAN and J. E. KUPPERIAN, Jr., The use of radiation absorption and luminescence in upper air density measurements	52
J. W. TOWNSEND, Jr. and E. B. MEADOWS, Density of the Winter night time Arctic upper atmosphere 110 to 170 km	60
H. E. LAGOW, R. HOBOWITZ and J. AINSWORTH, Rocket measurements of the Arctic upper atmosphere	74
C. Y. JOHNSON, J. P. HEPPNER, J. C. HOLMES and E. B. MEADOWS, Results obtained with rocket-borne ion spectrometers	83
J. Carl SEDDON and John E. JACKSON, Ionosphere electron densities and differential absorption	91
H. Korf KALLMANN, A new model of the atmosphere and ionosphere	99
V. M. DRIATSKI and A. S. BESPROZVANNAYA, Ionospheric conditions in the circumpolar region (according to observations, made at the drifting station SP-3 during 1954-1955)	103
Walter E. DIEMINGER, Clouds in the sporadic E-layer	121
Owen STOREY, Protons outside the earth's atmosphere	129
Ken-ichi MAEDA, Distortion of the magnetic field in the outer atmosphere due to the rotation of the earth	139
John W. EVANS, Solar activity	152
Walter Ott ROBERTS, Transient solar phenomena observed optically	157
H. FRIEDMAN, T. A. CHUBB, J. E. KUPPERIAN, Jr., R. W. KREPLIN and J. C. LINDSAY, X-ray and ultraviolet emission of solar flares (I. G. Y. project 10.3)	161
V. A. PETUKHOV, On a possible mechanism of solar non-stable processes leading to neutron eruptions	165
S. F. SINGER, Geophysical effects of solar corpuscular radiation	173
C. W. GARTLEIN, Visual observations of the aurora	178
D. M. HUNTEN, Recent work at the University of Saskatchewan on auroral and night sky spectra	186
T. R. KAISER, Relationships between auroral ionization and magnetic disturbance	194
S. MATSUSHITA, Some studies of the upper atmosphere in the auroral zone	198
V. I. KRASSOVSKY, G. I. GALPERIN, A. V. MIRONOV, V. S. PROKUDINA, N. N. SHEFOV, N. I. FEDOROVA, B. A. BAGARIAZKY, Results from studies of the night airglow and aurorae in the U. S. S. R.	207
A. E. VELLER, Hydrogen emission at the final stage of the aurora	219
M. HURUHATA and J. NAKAMURA, Airglow observation on board the "Soya" expedition ship to Antarctic	222
J. E. BLAMONT, T. M. DONAHUE and V. R. STULL, The sodium twilight airglow 1955-1957 I	226

J. E. BLAMONT, T. M. DONAHUE and W. WEBER, The sodium twilight airglow 1955-1957 II	258
J. F. BEDINGER, Sodium twilight experiments and wind measurements	278
E. R. MANRING, Sodium night sky experiments	280
V. I. KRASSOVSKY, The nature of emissions of the upper atmosphere	281
R. TOUSEY, Rocket measurements of the night airglow	300
A. VALLANCE JONES, Calcium and oxygen in the twilight airglow	310
James E. KUPPERIAN, Jr., E. BYRAM, T. A. CHUBB and H. FRIEDMAN, Extreme ultraviolet radiation in the night sky	317
E. R. MANRING and H. B. PETTIT, The 5 577 Å emission of [OI] in the night airglow from Sacramento Peak, New Mexico	328
Joseph W. CHAMBERLAIN, Interpretation of twilight spectra	328
I. S. SHKLOVSKY, Elementary processes in the upper atmosphere and their manifestation in emissions	338
O. OLDENBERG, Trends in Laboratory research related to Aeronomy	344
Williard H. BENNETT, The Störmertron	344
R. W. NICHOLLS, Studies upon transition probabilities and molecular excitation	348
Stephen J. SMITH, D. S. BURCH and Lewis M. BRANSCOMB, Experimental photodetachment cross section and the ionospheric detachment rate for O_2^-	368
A. DALGARNO, The altitudes and excitation mechanisms of the night airglow	378
TATSUZO OBAYASHI, Geomagnetic pulsations and the earth's outer atmosphere	384
Fred L. WHIPPLE and J. Allen HYNEK, The IGY optical satellite tracking program as a source of geodetic information	398