

JOURNAL
OF THE
RADIO RESEARCH LABORATORIES

MARCH/JULY 1981

CONTENTS

- | | | |
|---|--|-----|
| I. Severe Ionospheric Scintillation Associated with Magnetic Storm on March 22, 1979 | H. Minakoshi, K. Sinno, M. Kan, H. Kurihara and O. Furuta | 1 |
| II. Reliability and Availability of Redundant Satellite Systems | By K. Takahashi | 11 |
| III. A Scanning Spot-Beam Satellite Communication System via Transponder with Delay | By K. Iwasaki and T. Teshirogi | 29 |
| IV. Cosmic Radio Noise at High Frequencies as Observed with ISS-b | By M. Kotaki, I. Kuriki, C. Katoh and H. Sugiuchi | 35 |
| V. Global Distribution of Thunderstorm Activity Observed with ISS-b | By M. Kotaki, I. Kuriki, C. Katoh and H. Sugiuchi | 49 |
| VI. Investigations of Propagation Characteristics of Horizontally and Vertically Polarized Waves in the 10 meter Radiation Measuring Site | By K. Kawana | 73 |
| VII. A Countermeasure Against Interferences from an Earth Station to a Terrestrial Link | By M. Fujita | 87 |
| VIII. Frequency Characteristics of Attenuation, Phase Shift, and Cross-Polarization due to Rain within Communication Bands: Calculations at 4, 6, 11, and 14 GHz Bands for INTELSAT Satellite Communication System | By T. Oguchi and M. Yamada | 97 |
| IX. Effects of the Ionosphere on the Radio Horizon in HF Band on the Earth-Space Paths | By M. Kotaki, I. Kuriki, C. Katoh and H. Sugiuchi | 133 |
| X. International Geophysical Calendar for 1982 | | 151 |

RADIO RESEARCH LABORATORIES
MINISTRY OF POSTS AND TELECOMMUNICATIONS

TOKYO, JAPAN