

CONTENTS

Determination of the Spatial Distribution of the Plasma Density from the Phase Shift in Multichannel Microwave Probe Measurements	1
E. P. Gorbunov, Yu. N. Dnestrovskii, D. P. Kostomarov, and B. F. Mul'chenko	
Determination of the UHF Conductivity of the Plasma in the "Alpha" Device by Means of a Resonator Method	9
M. M. Larionov and V. V. Rozhdestvenskii	
Investigation of the Expansion of Plasma Bursts by Means of Quasi-Optical UHF Systems	16
V. V. Alikeev, M. I. Pergament, and A. I. Yaroslavskii	
Method and Equipment for Measuring the Amplitude of High-Frequency Harmonic Oscillations of the Plasma Surface	23
V. G. Andreev	
Multifrequency Plasma Interferometry	29
L. A. Dushin, A. I. Masliev, A. I. Skibenko, and I. P. Fomin	
Measurement of the Concentration of Electrons in a Plasma from the Group-Delay Time of Electromagnetic Oscillations	37
V. V. Khilil'	
Method for Testing Phasemeters with Frequency Modulation	42
L. Ya. Malykh, N. I. Malykh, N. F. Perepelkin, and E. S. Yampol'skii	
Two-Frequency Phasemeter for Plasma Diagnostics	47
L. Ya. Malykh, N. I. Malykh, and E. S. Yampol'skii	
Three-Channel UHF Phasemeter	50
L. Ya. Malykh, N. I. Malykh, and E. S. Yampol'skii	
Homodyne Phasemeter with Frequency Modulation of the UHF-Generator Oscillations for Measuring the Electron Concentration in Plasma	53
V. V. Khilil'	
Two-Frequency Homodyne Frequency Conversion	60
V. V. Khilil' and V. A. Shchelokov	
Microwave Interferometer with Counting Logic	68
L. A. Dushin and V. G. Grigorenko	

Measurements of Superfast Plasma Disturbances in Shock-Wave Experiments	72
R. Kh. Kurtmullaev, K. I. Mekler, Yu. M. Molyavin, and V. I. Pil'skii	
Ultrahigh-Frequency Phasemeters for Plasma Diagnostics	77
N. I. Malykh and E. S. Yampol'skii	
Transition of Oscillations with Rapid Phase Changes Through Selective Circuits of Fast-Response Electronic Phasemeters.	84
V. V. Khilil'	
Multiple Reflections at Dielectric Walls in UHF Measurements on Plasmas	95
V. P. Efimov, A. Ya. Kirichenko, L. L. Kozorovitskii, V. D. Rusanov, and V. P. Smirnov	
Passive Electric UHF Probe with a Symmetrizing Counterweight; Application of the Probe in Measurements of the Penetration of Powerful Electromagnetic Waves in a Plasma	100
I. R. Gekker	