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OPERATING MODES FOR HIGH-TC SUPERCONDUCTING TRANSITION EDGE BOLOMETERS WITH ELECTROTHERMAL FEEDBACK FOR INFRARED WAVES -- ABSTRACT -- 1. INTRODUCTION -- 2. BOLOMETER THEORY -- 2.1. Modes of HTSC Bolometer Operation -- 2.2. Characteristics of HTSC Bolometers in CCM and CVM -- 2.3. Characteristics of HTSC Bolometers in ANETF Mode -- 3. SAMPLES -- 4. NUMERICAL AND EXPERIMENTAL MODELING -- 4.1. Comparative Numerical Modeling in Passive CCM and CVM Modes -- 4.2. Comparative Numerical and Experimental Modeling in CCM and ANETF Modes -- 4.3. Temperature Stabilization of Bolometer Operating Point -- CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES -- Chapter 7 EXPERIMENTAL MODELLING ACTIVE STRONG ELECTROTHERMAL FEEDBACK MODE FOR HIGH-TC SUPERCONDUCTING BOLOMETER ON SILICON NITRIDE MEMBRANE -- ABSTRACT -- 1. INTRODUCTION -- 2. BOLOMETER THEORY.
3. EXPERIMENTAL TECHNIQUE AND RESULTS -- CONCLUSION -- REFERENCES -- Chapter 8 YBCO FILMS ON SRTIO3 SUBSTRATES WITH RECORDLY LOW 1/F NOISE FOR BOLOMETER APPLICATIONS -- ABSTRACT -- 1. INTRODUCTION -- 2. NOISE EQUIVALENT POWER AND NOISE VOLTAGE OF HTSC BOLOMETER -- 3. SAMPLES AND EXPERIMENTAL TECHNIQUE -- 4. MAIN RESULTS OBTAINED AND DISCUSSION -- 5. ESTIMATION OF BOLOMETERS -- CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES -- Chapter 9 ABSOLUTE HIGH-TC SUPERCONDUCTING RADIOMETER WITH ELECTRICAL-SUBSTITUTION FOR X-RAYS MEASUREMENTS -- ABSTRACT -- 1. INTRODUCTION -- 2. DESIGN, PRINCIPLE AND CHARACTERISTICS OF RADIOMETER -- 2.1. Design and Principle of Operation -- 2.2. Calculated Characteristics -- 3. INTERACTION OF THE RADIOMETER WITH RADIATION -- Effect of Radiometer Interaction with Radiation on Accuracy of Measurements -- Other Factors Having Influence on Efficiency of Radiometer Measurements -- 4. CONCLUSION -- ACKNOWLEDGMENTS -- REFERENCES -- INDEX -- Blank Page.

Sommario/riassunto

Gathers and presents research in the study of bolometers including investigations of properties of high temperature superconducting bolometers, operating uncooled resistive bolometers in a closed-loop mode, as well as a review on thin-film micro-bolometers with Si-Ge thermo-sensing films deposited from plasma discharge.