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| Nota di contenuto | Intro -- PHYSICS AND TECHNOLOGY OF HIGH-CURRENT DISCHARGES IN DENSE GAS MEDIA AND FLOWS -- PHYSICS AND TECHNOLOGY OF HIGH-CURRENT DISCHARGES IN DENSE GAS MEDIA AND FLOWS -- CONTENTS -- PREFACE -- Chapter I PROCESSES IN HIGH CURRENT DISCHARGES IN DENSE AND SUPER DENSE GAS ENVIRONMENTS -- ABSTRACT -- 1. INTRODUCTION -- 2. CONSTRUCTION OF THE DISCHARGE CHAMBERS -- 2.1 Methods of Diagnostics -- 2.2 Pressure Measuring -- 2.3 Roentgen Measuring -- 3. LARGE CURRENT DISCHARGE WITH THE CURRENT INCREASE RATE OF 109 A/SEC -- 3.1 Discharge Character -- 3.2 Discussion of the Results -- 4. LARGE CURRENT DISCHARGE UNDER THE CURRENT INCREASE RATE OF (1-3) x108 A/SEC -- 4.1 Discharge in Hydrogen -- 4.2 Discharge in Helium, Nitrogen, and Argon -- 5. LARGE CURRENT DISCHARGE UNDER THE CURRENT INCREASE RATE OF (0.6-3)x107 A/SEC -- 5.1 Electro-Machine Source -- 5.2 Inductive Storage -- 6. LARGE CURRENT DISCHARGE UNDER THE CURRENT INCREASE RATE OF (0.6-1.8) x1010A/SEC -- 7. LARGE CURRENT DISCHARGE UNDER THE CURRENT INCREASE RATE OF 6x1011A/SEC -- 8. HEAT EXCHANGE IN THE DISCHARGE CHAMBER : HEAT EXCHANGE BETWEEN THE DISCHARGE AND THE WORKING GAS -- 8.1 Electrodes -- 8.2 Peculiarities of the Electrodes' Erosion -- 9. PULSE DISCHARGE IN THE SUPER DENSE GAS -- |

10. WORKING CHARACTERISTICS OF LARGE CURRENT DISCHARGES IN PULSE GENERATORS OF DENSE PLASMA -- 11. PULSE PLASMA GENERATORS -- 11.1 Pulse Electric Arc Plasma Generators -- 11.2 Pulse Electric Arc Plasma Generators with Co-Axial Electrodes -- 11.3 Pulse Plasma Generators with Two Rod Electrodes -- 11.4 Pulse Electric Arc Plasmatrons with Co-Axial Rod Electrodes -- 11.5 Pulse Plasma Generators and the Electric Discharge Light-Gas Accelerators of Bodies -- 12. CONCLUSION -- REFERENCES -- Chapter II INVESTIGATION OF HIGH-CURRENT DISCHARGES IN GAS ENVIRONMENTS -- ABSTRACT -- 1. INTRODUCTION. 2. DISCHARGES IN GAS ENVIRONMENTS -- 2.1. Character of the Discharge -- 2.2. Discharge in Nitrogen -- 2.3. Heat Exchange between the Arc and the Working Gas -- 2.4. On the Opportunity to Obtain the Detachment of the Oscillating Temperature of Nitrogen in Decaying Plasma under High Pressure -- 2.5. Heating by Radiation in Nitrogen -- 2.6. Discharge in Air and in Water Vapors -- 3. ELECTRODES -- 3.1. Measurements of Surface Temperature of Electrodes -- 3.2. Working Regimes of Electrodes -- 3.3. Investigation of the Electrodes' Material -- 3.4. Run-Out of the Electrodes -- 3.5. Work of Electrodes in the Oxidizing Environments: The Rail Electrodes -- 3.6. The Core-Type Electrodes -- 4. THE MAIN TECHNICAL CHARACTERISTICS OF PLASMA GENERATORS AND THEIR CONSTRUCTIONS -- 4.1 Classification of Plasma Generators -- 4.2. DC Plasma Generators -- 4.3. AC Plasma Generators -- 4.4 Single-Phase Plasma Generators of Alternating Current -- 4.5 A Single-Phase AC Plasma Generator with an Arc of Direct Action with Power up to 150 Kw -- 4.6 Multi-Phase Multi-Chamber Plasma Generators of Alternating Current -- 4.7. Multi-Phase Single-Chamber Plasma Generators of Alternating Current -- 4.8. Plasma Generators with Rod Electrodes -- 4.9. High-Voltage One- and Three-Phase Plasmatron -- 5. EXTERNAL CHARACTERISTICS OF PLASMA GENERATORS -- 6. PLASMA TECHNOLOGIES -- 6.1. General Description -- 6.2. Plasma Pyrolysis and Gasification -- 6.3 Plasma High-Temperature Oxidizing -- REFERENCES -- Chapter III INVESTIGATION OF PULSE ELECTRIC DISCHARGES IN LIQUIDS -- ABSTRACT -- 1. INTRODUCTION -- 2. EXPERIMENTAL UNIT AND THE PED PARAMETERS -- 3. EROSION OF ELECTRODES AND THE NANOPARTICLES -- 4. BIOLOGICAL OBJECTS AND METHODS OF INVESTIGATION -- 5. NANOPARTICLES IN DISPERSIONS -- 6. NANOPARTICLES AND BLOOD SERUM -- 7. AGGREGATION OF LYSOZYME ON NANOPARTICLES. 8. BACTERICIDAL ACTION OF WATER TREATED BY PED -- 9. MECHANISM OF PMRW -- 10. INFLUENCE OF NANOPARTICLES ON TUMOR GROWTH IN VIVO -- REFERENCES -- INDEX -- Blank Page.

Sommario/riassunto

The book is dedicated to results of fundamental investigations in the field of dense low temperature plasma and their technical applications.
