

CONTENTS

pages

PART 1

THE PROBLEMS OF MATHEMATICAL MODELING OF PHYSICO-MECHANICAL PROCESSES IN ENERGETIC EQUIPMENT ELEMENTS

CHAPTER 1

MATHEMATICAL MODELING OF THERMOMECHANICAL PROCESSES IN ELEMENTS OF ENERGETICAL EQUIPMENT

(Volodymyr ASTASHKIN, Stepan BUDZ, Oleksandr HACHKEVYCH, Bohdan DROBENKO)..... 33

CHAPTER 2

NUMERICAL MODELING OF THERMOMECHANICAL PROCESSES IN ELEMENTS OF ENERGY EQUIPMENT

(Stepan BUDZ, Oleksandr HACHKEVYCH, Bohdan DROBENKO, Roman KUSHNIR)..... 53

CHAPTER 3

COMPUTATIONAL ASPECTS OF THE MODELING OF THERMOMECHANICAL PROCESSES IN ELEMENTS OF ENERGETICAL EQUIPMENT

(Oleksandr BURYK, Petro VANKEVYCH, Bohdan DROBENKO, Anida STANIK-BESLER)..... 71

CHAPTER 4

THE STRESS STATE OF SLEEVES WITH THE REPAIR EXTRACTIONS OF MATERIAL DEFECTS

(Bohdan BOZHENKO, Stepan BUDZ, Bohdan DROBENKO, Anna RAWSKA-SKOTNICZNY)..... 87

CHAPTER 5

COMPUTER MODELLING OF DEFORMATION PROCESSES AT OPERATION OF HIGH PRESSURE BOILER DRUM OF THERMAL POWER STATIONS WITH REPAIR EXTRACTIONS

(Volodymyr ASTASHKIN, Bohdan BOZHENKO, Stepan BUDZ, Bohdan DROBENKO) 99

CHAPTER 6

ESTIMATION OF THE OPERATING RESOURCE OF ELEMENTS OF ENERGETICAL EQUIPMENT WITH USING OF THE STRESS STATE MODELLING, ACCOUNTING OF DEGRADATION OF MATERIAL, DAMAGES AND REPAIR EXTRACTIONS OF DEFECTS

(Volodymyr ASTASHKIN, Stepan BUDZ, Oleksandr HACHKEVYCH, Bohdan DROBENKO) 117

CHAPTER 7

MODELLING OF OPERATIONAL MODES OF COLLECTORS OF BOILERS OF TPP WITH THE ACCOUNT OF THE MATERIAL DEGRADATION AND RECEIVED DAMAGES WITH THE PURPOSE OF EVALUATION OF FITNESS FOR THE OPERATION

(Stepan BUDZ, Tomasz WOŁCZAŃSKI, Bohdan DROBENKO, Anida STANIK-BESLER) 135

CHAPTER 8

MATHEMATICAL MODELLING AT THE EVALUATION OF FITNESS FOR THE OPERATION OF SCREEN PIPES OF BOILER UNITS WITH THE RECEIVED DEFECTS

(Volodymyr ASTASHKIN, Stepan BUDZ, Bohdan DROBENKO, Adrian TORS'KYI) 151

PART 2

MATHEMATICAL AND PHYSICAL ASPECTS

CHAPTER 9

TO MODELING THERMO-STRESSED STATE OF A SEMITRANS- PARENT LAYER SUBJECTED TO EXTERNAL THERMAL RADIATION IN THE PRESENCE OF REFLECTION SURFACES (Oleksandr HACHKEVYCH, Orest HUMENCHUK, Andrzej MARYNOWICZ, Rostyslav TERLETSKII)	163
---	-----

CHAPTER 10

THERMOMECHANICAL BEHAVIOR OF THE GLASS LAYER UNDER THE INFLUENCE OF THERMAL RADIATION PRODUCED BY TWO TYPICAL INDUSTRIAL EMITTERS (Oleksandr HACHKEVYCH, Orest HUMENCHUK, Anna KOZIARSKA, Borys CHORNYI).....	187
---	-----

CHAPTER 11

VERSION OF MATHEMATICAL MODEL DESCRIBING THERMO-ELA- STOPLASTIC PROCESSES AT TECHNOLOGICAL WELDING (Oleksandr HACHKEVYCH, Vira MYKHAILYSHYN, Teresa KOZAKEVYCH, Stefan MORYŃ)	197
--	-----

CHAPTER 12

MODELING AND OPTIMIZATION OF RESIDUAL STRUCTURAL AND STRESSED STATES OF STEEL PLATES SUBJECTED TO HEATING BY MOVING HEAT SOURCES TAKING INTO ACCOUNT ADDITIONAL THERMAL AND TECHNOLOGICAL FACTORS (Tomasz WOŁCZAŃSKI, Oleksandr HACHKEVYCH, Teresa KOZAKEVYCH, Roman KUSHNIR).....	217
---	-----

CHAPTER 13

VARIANT OF MODELING AND ANALYTIC-NUMERICAL DETERMINING OF STRESS-STRAIN STATE IN STRUCTURES WITH MULTI-WEDGE JOINING

(Ihor MAHORKIN, Mykola MAHORKIN, Tetiana SKRYPOCHKA, Anida STANIK-BESLER) 233

CHAPTER 14

COMPUTER MODELING AND OPTIMIZATION OF WELDING REGIMES OF GLASS SOLIDS

(Oleksandr HACHKEVYCH, Mykola HACHKEVYCH, Evgen IRZA, Valentin MOZHAROVSKY) 249

CHAPTER 15

MODELLING OF PHYSICAL AND MECHANICAL BEHAVIOR OF SOLIDS WITH SHAPE MEMORY AT ELECTRIC FIELD ACTION

(Bohdan BOZHENKO, Roman IVAS'KO, Oleksii ONYSHKO, Anida STANIK-BESLER) 261

SUMMARY 273

INDEX OF AUTHORS 279