

CONTEST

INTRODUCTION.....	5
CHAPTER 1. MATHEMATICAL MODELLING OF DYNAMIC SYSTEMS IN ECONOMICS.....	7
1.1 Direct dynamic problem formalization	8
1.2 Indirect dynamic problem formalization	9
1.3 Evolution equation of linear multiply connected dynamic system.....	10
1.4 Problem statement.....	15
1.5 Chapter conclusion.....	15
CHAPTER 2. ANALYSIS AND RESEARCH OF METHODS OF LINEAR DYNAMIC SYSTEMS ESTIMATION.....	16
2.1 The Expectation-Maximisation algorithm for multivariable dynamic system estimation.....	16
2.2 Active estimation for switching linear dynamic systems.....	21
2.3 State estimation of linear dynamic system with unknown input and uncertain observation.....	28
2.4 State estimation of dynamic systems in the presence of time-varying outliers in observations.....	34
2.5 Chapter conclusion.....	38
CHAPTER 3. ESTIMATION MODEL BUILDING WITH PROVISION FOR NONLINEARITY.....	39
3.1 Kalman filtering for fuzzy discrete time dynamic systems.....	39
3.2 A nonparametric approach.....	44
3.3 Optimal estimation theory for dynamic systems with set membership uncertainty.....	47
3.4 The extended Kalman filter.....	51
3.5 The gradient descent filter.....	53
3.6 The unscented Kalman filter.....	55
3.7 Uncertainty management for estimation in dynamic systems.....	59

3.8 Phasor measurements in dynamic state estimation of power systems.....	63
3.9 Bayesian state and parameter estimation of uncertain dynamical systems.....	65
3.10 Chapter conclusion.....	67
CHAPTER 4. MODEL DEVELOPMENT ON BASIS OF ROBUST METHOD OF ELLIPSOIDAL ESTIMATION OF DYNAMIC SYSTEMS STATE IN THE CASE OF RESTRICTIONS ON THE NOISE OF MEASURED OUTPUT AND THE SPEED OF ITS CHANGING.....	
4.1 Problem statement.....	68
4.2 Dynamic system estimation.....	69
4.3 The sample of implementation.....	72
4.4 Chapter conclusion.....	73
CHAPTER 5. MODEL VALIDITY ESTIMATION.....	
5.1 Model optimization.....	74
5.2 Parameters verification.....	76
5.3 Chapter conclusion.....	83
CONCLUSION.....	84
REFERENCES.....	85