



MODELING OF SOME CLASS OF LIFE SCIENCE PROBLEMS BASED ON THE LOTKA–VOLTERRA MODEL

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Abstract. This paper deals with algorithms for life science problems based on the Lotka–Volterra (L–V) model. In Part 1, a socio-economic model is considered in which populations are divided into two groups with incomes below and above the median level,

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and coefficients of natural growth and competition weakening are determined. The results show that, without active social policy, market mechanisms lead to a gradual widening of the income gap between rich and poor, as confirmed by five-year forecasting models. Various simulation schemes are investigated for complex systems and decision-making under uncertainty. The Appendix presents mathematical tools related to the model.