

отходов клевого производства. Тез. док. международного симпозиума «Экология, авиация, техносфера - взгляд в третье тысячелетие».- Рига: РАУ, 1996.

6. Нуркс Е.Е., Гредин В.Г. и др. Биотехнологические аспекты утилизации органических . Тез. док. международного симпозиума «Экология, авиация, техносфера - взгляд в третье тысячелетие». – Рига: РАУ, 1996.

## **DIRECT AND SUPPLEMENTARY SHADOWS IN THE TASK OF THE EFFICIENT DESCRIPTION OF CLASSES**

ROMAN GREKOV

### **Abstract**

One of the best techniques of feature efficiency estimation is based on the application of composition of the binary relations, i.e. direct shadows of fuzzy sets. Furthermore, the analysis of the binary relations yields a significant increase in the efficiency of the method operation, and also a detailed understanding of the processes occurring during the process of composition under various conditions.

Since the composition of the binary relations is exploited to estimate the efficiency of attributes by means of direct shadows of fuzzy sets, a question appears: what volume of the information regarding the efficiency of attributes can supplementary shadows of fuzzy sets bear? The use of supplementary shadows along with the analysis of direct shadows of fuzzy sets will presumably give a more complete representation about the efficiency of features of classes.

The experiments performed on solving tasks by means of the composition of direct and supplementary shadows have shown that under certain conditions supplementary shadows can give some auxiliary estimation of the attributes efficiency. It was then decided to continue some of experiments to reveal the valid behavior of supplementary shadows under various statements of the task and various samples, and also provided that the quantity of classes and the degree of their participation in space were changed.

In this paper, an example is considered where three classes participate on a three-dimensional space of attributes. The convolution of composition realization results, degrees of reduction, is also proposed to estimate the attributes available.

### **REFERENCES**

1. Ozols Y. and Borisov A. "Pattern Classification and Feature Extraction on the Basis of Composition of Fuzzy Relations", Seventh International Fuzzy Systems Association World Congress, Prague, June 25-29, 1997., pp. 129-134.
2. Zadeh L. A., "Shadows of fuzzy sets", Probl. Trans. Information, 2, 37-44.
3. Tanaka, Kazuo, *An Introduction to Fuzzy Logic for Practical Applications*, Springer, 1997.