

INTUITIONISTIC FUZZY PARAMETERISED FUZZY SOFT SET (Set Lembut Kabur Berparameter Kabur Berintuisi)

ENTISAR EL-YAGUBI & ABDUL RAZAK SALLEH

ABSTRACT

In this paper, the definition of intuitionistic fuzzy parameterised fuzzy soft set (*ifpfs*-sets) is introduced with their properties. Two operations on *ifpfs*-set, namely union and intersection are introduced. Also, some examples for these operations are given. The definition of *ifpfs*-aggregation operator which forms *ifpfs*-decision making method is introduced.

Keywords: soft set; fuzzy soft set; fuzzy parameterised fuzzy soft set; *ifpfs*-sets; *ifpfs*-aggregation operator; *ifpfs*-decision making method

ABSTRAK

Dalam makalah ini, diperkenalkan takrif set lembut kabur berparameter kabur berintuisi (set-*lkbki*) beserta sifat-sifatnya. Turut diperkenalkan dua operasi ke atas set-*lkbki*, iaitu kesatuan dan persilangan. Hasil-hasil yang berkaitan dan contoh untuk operasi ini diberikan. Diperkenalkan juga takrif pengoperasi pengagregatan-*lkbki* yang membentuk kaedah pembuatan keputusan-*lkbki*.

Kata kunci: set lembut; set lembut kabur; set lembut kabur berparameter kabur; set-*lkbki*; pengoperasi pengagregatan-*lkbki*; kaedah pembuatan keputusan-*lkbki*

References

- Alkhalazleh S., Salleh A.R. & Hassan N. 2011. Fuzzy parameterized interval-valued fuzzy soft set. *Applied Mathematical Sciences* **5**(67): 3335-3346.
- Atanassov K.T. 1986. Intuitionistic fuzzy sets. *Fuzzy Sets and Systems* **20**: 87-96.
- Atanassov K.T. 1994. Operators over interval-valued intuitionistic fuzzy sets. *Fuzzy Sets and Systems* **64**: 159-174.
- Bashir M. & Salleh A.R. 2012. Fuzzy parameterized soft expert set. *Abstract and Applied Analysis*. Article ID 258361, 16 pages.
- Cağman N., Citak F. & Enginoglu S. 2010. Fuzzy parameterised fuzzy soft set theory and its applications. *Turkish Journal of Fuzzy Systems* **1**: 21-35.
- Fathi M. 2007. On intuitionistic fuzzy sets. MSc Research Project, Faculty of Science and Technology, Universiti Kebangsaan Malaysia.
- Gau W.L. & Buchrer D.J. 1993. Vague sets. *IEEE Trans. Systems Man Cybernet* **23**(2): 610-614.
- Lowen R. 1996. *Fuzzy Set Theory*. Dordrecht: Kluwer Academic Publishers.
- Maji P.K., Biswas R. & Roy A.R. 2001a. Fuzzy soft set. *The Journal of Fuzzy Mathematics* **9**(3): 589-602.
- Maji P.K., Biswas R. & Roy A.R. 2001b. Intuitionistic fuzzy soft set. *The Journal of Fuzzy Mathematics* **9**: 677-692.
- Maji P.K., Biswas R. & Roy A.R. 2003. Soft set theory. *Computers and Mathematics with Applications* **45**: 555-562.
- Molodtsov D. 1999. Soft set theory - First result. *Computers and Mathematics with Applications* **37**: 19-31.
- Wang L.X. 1997. *A Course in Fuzzy Systems and Control*. Upper Saddle River, NJ: Prentice-Hall.
- Zadeh L.A. 1965. Fuzzy sets. *Information and Control* **8**: 338-353.

School of Mathematical Sciences
Faculty of Science and Technology
Universiti Kebangsaan Malaysia
43600 UKM Bangi
Selangor DE, MALAYSIA
E-mail: entisar_e1980@yahoo.com, aras@ukm.my*

*Corresponding author