

**Diamond, Phil**

**Fuzzy least squares.** (English) Zbl 0663.65150  
Inf. Sci. 46, No. 3, 141-157 (1988).

The author discusses three models of fuzzy linear regression function for triangular fuzzy numbers [Fuzzy numbers with triangular shapes, cf. *D. Dubois* and *H. Prade*, Int. J. Syst. Sci. 9, 613-626 (1978; Zbl 0383.94045)]. Formulas are deduced by the least-squares method.

Reviewer: [J.Drewniak](#)

**MSC:**

[65C99](#) Probabilistic methods, stochastic differential equations  
[62J05](#) Linear regression; mixed models  
[03E72](#) Theory of fuzzy sets, etc.

Cited in **8** Reviews  
Cited in **155** Documents

**Keywords:**

[fuzzy linear regression](#); [triangular fuzzy numbers](#); [least-squares method](#)

**Full Text:** [DOI](#)

**References:**

- [1] Bellman, R.E.; Zadeh, L.A., Decision-making on a fuzzy environment, Management sci., 17, B141-B164, (1971) · [Zbl 0224.90032](#)
- [2] Dubois, D.; Prade, H., Fuzzy sets and systems: theory and applications, (1980), Academic New York · [Zbl 0444.94049](#)
- [3] Dubois, D.; Prade, H., Additions of interactive fuzzy numbers, IEEE trans. automat. central, AC-26, 926-936, (1981)
- [4] Hammerbacher, I.M.; Yager, R.R., Predicting television revenues using fuzzy subsets, TIMS stud. management sci., 20, 469-477, (1984)
- [5] King, L.J., Statistical analysis in geography, (1969), Prentice-Hall Englewood Cliffs, N.J
- [6] Moore, R.E., Methods and applications of interval analysis, (1979), SIAM Philadelphia · [Zbl 0417.65022](#)
- [7] Negoita, C.V.; Ralescu, D.A., Applications of fuzzy sets to systems analysis, (1975), Wiley New York · [Zbl 0326.94002](#)
- [8] Prade, H., Operations research with fuzzy data, (), 115-169
- [9] Puri, M.L.; Ralescu, D.A., Fuzzy random variables, J. math. anal. appl., 114, 409-422, (1986) · [Zbl 0592.60004](#)
- [10] Tanaka, H., Linear regression analysis with fuzzy model, IEEE trans. systems man cybernet., SMC-14, 325-328, (1984) · [Zbl 0551.90061](#)
- [11] Yager, R.R., Fuzzy prediction based upon regression models, Inform. sci., 26, 45-63, (1982) · [Zbl 0509.62087](#)
- [12] Zadeh, L.A.; Zadeh, L.A.; Zadeh, L.A., The concept of a linguistic variable and its application to approximate reasoning, Inform. sci., Inform. sci., Inform. sci., 9, 43-80, (1975) · [Zbl 0404.68075](#)
- [13] Zadeh, L.A., Fuzzy sets as a basis for a possibility theory, Fuzzy sets and systems, 1, 3-28, (1978) · [Zbl 0377.04002](#)
- [14] Zimmerman, H.J., Fuzzy programming and linear programming with several objective functions, Fuzzy sets and systems, 1, 45-55, (1978) · [Zbl 0364.90065](#)
- [15] Diamond, P., Least squares Fitting of several fuzzy variables, ()
- [16] Ch'en, S.H., Operations on fuzzy numbers with function principle, Tamkang J. management sci., 6, 13-25, (1985), (MR 87a:03088).

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