

## Abstract

The purpose of this paper is to develop a methodology for getting a continuous fuzzy data by using the software The Geometer's Sketchpad (GSP). And we propose a general method for nonparametric tests with fuzzy data that can deal with trapezoid, triangular, and interval-valued data simultaneously.

Using the fuzzy questionnaire designed by GSP. can help respondents to record their thoughts more precisely. Additionally our method for nonparametric tests with fuzzy data is more powerful than others.

Additional research issues for further investigation are expressed by question such as follows: how to record the membership function on line, especially when the sample size is large?

**Keywords:** fuzzy data, fuzzy questionnaire, nonparametric test, human thoughts, The Geometer's Sketchpad.



## 摘要

本文主要的目的是藉由 The Geometer's Sketchpad (GSP)軟體的設計，幫助我們得到一組連續型模糊樣本。另外對於模糊數的無母數檢定我們提供了一個較為一般的方法，可以針對梯型、三角型，區間型的模糊樣本同時進行處理。

藉由利用 GSP. 軟體所設計的模糊問卷，可以較清楚地紀錄受訪者的感覺，此外我們所提供之對於模糊數的無母數檢定方法比其他方法較為有效力。

在未來的研究裡，我們仍有一些問題需要解決，呈述如下：當所施測的樣本數很大時，如何有效率的在網路上紀錄受測者所建構的隸屬度函數？

**關鍵字:** 模糊數、模糊問卷、無母數檢定、人類思考、The Geometer's Sketchpad.