

Fuzzy interpolation rational bicubic bezier surface

Abstract

This paper introduces fuzzy interpolation rational bicubic Bezier surface (later known as FIRBBS) which can be used to model the fuzzy data forms after defining uncertainty data by using fuzzy set theory. The construction of FIRBBS is based on the definition of fuzzy number concept since we dealing with the real uncertainty data form and interpolation rational bicubic Bezier surface model. Then, in order to obtain the crisp fuzzy solution, we applied the alpha-cut operation of triangular fuzzy number to reduce the fuzzy interval among those fuzzy data points(FDPs). After that, we applied defuzzification method to give us the final solution of getting single surface which also knows as crisp fuzzy solution surface. The practical example also is given which represented by figures for each processes. This practical example take the fuzzy data of lakebed modeling based on uncertainty at z-axis(depth).