

FUZZY B-SPLINE SURFACE MODELING OF WAVE SURFACE

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ABSTRACT

The construction of fuzzy B-spline surface model is introduced in order to develop a model based on geometry modeling and fuzzy number concepts. To solve the problem of uncertainty data in geometry modeling, one of the methods which is used to define the uncertainty data is fuzzy number concepts. After the uncertainty data is defined by the fuzzy number concepts, it will become fuzzy data points. Then, the fuzzification process which involves alpha-cut operation in the form of tri-angular fuzzy number is applied to reduce interval value between fuzzy data points and crisp data points. Moreover, we also model the fuzzy data points through the B-spline surface function. The defuzzification process is used to obtain a fuzzy solution in a single value. This proposed model is applied in modeling of wave surface as the example in real life application.