Weighted G2 Multi-Degree Reduction of Bezier Curves

Authors : Salisu ibrahim, Abdalla Rababah

Abstract : In this research, we use Weighted G2-Multi-degree reduction of Bezier curve of degree n to a Bezier curve of degree m, m < n. The degree reduction of Bezier curves is used to represent a given Bezier curve of n by a Bezier curve of degree m, m < n. Exact degree reduction is not possible, and degree reduction is approximate process in nature. We derive a weighted degree reducing method that is geometrically continuous at the end points. Different norms will be considered, several error minimizations will be given. The proposed methods produce error function that are less than the errors of existing methods.

Keywords : Bezier curves, multiple degree reduction, geometric continuity, error function
Conference Title : ICMCS 2014 : International Conference on Mathematics and Computational Science
Conference Location : Sydney, Australia
Conference Dates : December 15-16, 2014