A short note on Jacobi-Bernstein connection coefficients

Paweł Woźny[*]

Institute of Computer Science, University of Wrocław, ul. Joliot-Curie 15, 50-383 Wrocław, Poland

Abstract

Fast and efficient methods of evaluation of the connection coefficients between shifted Jacobi and Bernstein polynomials are proposed. The complexity of the algorithms is $O(n)$, where n denotes the degree of the Bernstein basis. Given results can be helpful in a computer aided geometric design, e.g., in the optimization of some methods of the degree reduction of Bézier curves.

Keywords: Bernstein polynomials; Jacobi polynomials; Hahn polynomials; connection coefficients.

[*]Corresponding author. Fax +48 71 3757801
 Email address: `Pawel.Wozny@ii.uni.wroc.pl` (Paweł Woźny)