Blending surfaces generated using the Bernstein operator

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ABSTRACT.

In this paper we construct blending surfaces using the univariate Bernstein operator. The surfaces have the properties that they stay on a curve (the border of the surfaces domain) and have a fixed height in a point from the domain. The surfaces are generated using a curve network, instead of the control points from the case of classical Bezier surfaces. We study the monotonicity and we give conditions to obtain concave surfaces.

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