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Examples of Bézier-Surfaces of Revolution

This paper gives examples of polynomially parametrizable surfaces of revolution. The first section presents examples which have the additional property of being ruled surfaces. The second section presents a simple and direct approach for the construction of a class of polynomial surfaces of revolution, based on the mapping $f: C \rightarrow C, w \mapsto w^m$ for $m \in \mathbb{N}$. The property of being polynomially parametrizable makes this type of surfaces useful in mathematics not only for studying the solution sets of certain diophantine equations but also in the field of CAGD, especially when Bézier-surfaces of revolution are needed.

Keywords: Ruled surfaces, surfaces of revolution, Bezier-polynomial surfaces.

MSC: 53A05; 68U05