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On Bézier surfaces in three-dimensional Minkowski space. (English) Zbl 1232.65033
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Summary: We study Bézier surfaces in three-dimensional Minkowski space. In particular, we focus on timelike and spacelike cases for Bézier surfaces. We also deal with the Plateau-Bézier problem in , obtaining conditions over the control net to be extremal of the Dirichlet function for both timelike and spacelike Bézier surfaces. Moreover, we provide interesting examples showing the behavior of the Plateau-Bézier problem in and illustrating the relationship between it and the corresponding Plateau-Bézier problem in the Euclidean space \mathbb{R}^3 .

MSC:

65D17 Computer-aided design (modeling of curves and surfaces)
53C99 Global differential geometry

Cited in **3** Documents

Keywords:

Bézier surface; timelike surface; spacelike surface; Minkowski space; minimal surface; maximal surface

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