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Minimal surfaces

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ABSTRACT. Tensioned membrane constructions have many good physical qualities besides that they are architectonical very interesting. Their construction can start from minimal surfaces. Computation of inner points of surface with minimal area from prescribed boarder is quite difficult in many respects. I was inspired by Spanish research by Juan Monterde who focused on Plateau-Bézier problem in 2002, [1].

Minimal surfaces are constructed approximately during construction in engineering. Therefore we are looking for means that can approximate the searched surface with respect to the best accession to minimal surface area.

One possibility to solve such problem is to investigate surfaces that are parameterized by polynomial functions, in particular by Bézier surfaces, or by piecewise polynomial functions.

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