

S.A. Coons, Surfaces for Computer-Aided Design of Space Forms

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(The "Little Red Book")

ABSTRACT

The design of airplanes, ships, automobiles, and so-called "sculptured parts" involves the design, delineation, and mathematical description of bounding surfaces. A method is described which makes possible the description of free-form doubly curved surfaces of a very general kind. An extension of these ideas to hyper-surfaces in higher dimensional spaces is also indicated. This surface technique has been specifically devised for use in the Computer-Aided Design Project at M.I.T., and has already been successfully implemented here and elsewhere.