

Origami Simulation in Virtual Space

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Abstract

The purpose of this study is to create an origami shape that contains a curved surface using a three-dimensional simulation. Until now, rigid-body origami models have been used as the basis of origami simulation. These models, however, are inflexible and do not allow for three-dimensional manipulation of an object. Therefore, this study proposes a new model of origami simulation utilizing a grid, which is composed of points and pairs connecting two points. By adding a pressure, a curvature is created. As a result, it was demonstrated that the origami simulation contains a curved surface. This new model could contribute to an expanding variety of origami simulations.