

## Geodesic mechanisms for gridshells

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### Abstract

The discretization of a smooth doubly-curved surface in a geodesic net is well known in the gridshell research community, for the simplification of the construction by using straight planks and simple joints, but now we present a novel deployable strategy based on the geodesic mechanism. Furthermore, we present a special case, when the geodesic mechanism is planar, and sometimes compact. This may open new possibilities for the prefabrication, transport and erection of gridshells. In our research we describe the workflow of approximating a planar geodesic mechanism to a specific target surface, and we explain the methods for simulating the operation of the mechanism. We introduce some of the geometry problems, and finally we describe the results of several physical prototypes.

### References

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