

PROJECT / Geometric engine of inhomogeneous implicit surfaces with singularities

STEINER

Main Objective:

Usually, representing implicit surfaces is confined to homogeneous and manifold ones. That is, singularities such as isolated points and self-intersections cannot be detected and thus sampled and rendered.

So, the main aims of this project are the following:

- To design and implement new rendering algorithms for inhomogeneous and non-manifold implicit surfaces with topological guarantees.
- To apply the acquired knowledge on implicit surfaces to modeling of human organs and physical phenomena (e.g. fluids and fire).

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