5.2.4 Modeling - Meshes - Mesh Analysis

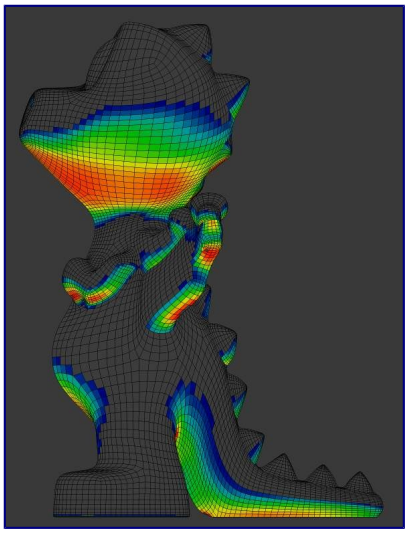
Mesh Analysis

Mesh analysis is useful for displaying attributes of the mesh that may impact certain use cases.

The mesh analysis works in editmode and shows areas with a high value in red, and areas with a low value in blue. Geometry outside the range is displayed grey.

Currently the different modes target 3d-printing as their primary use.

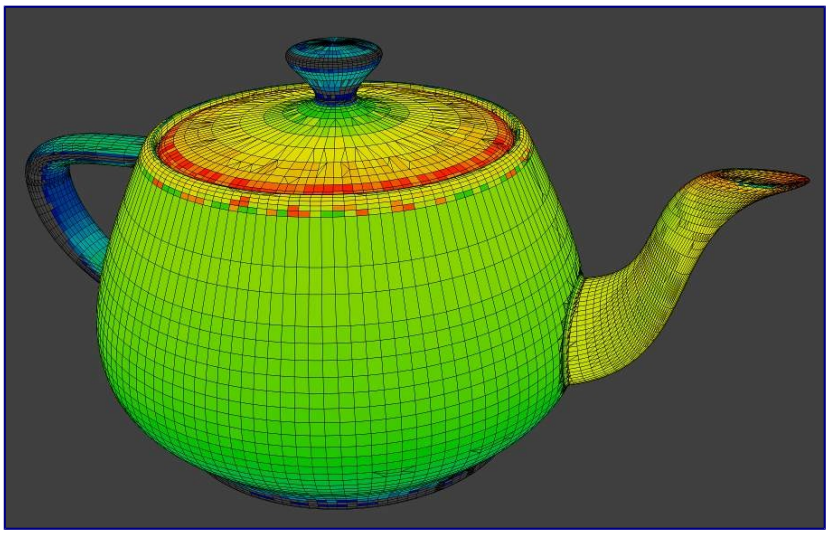
Overhang



Overhang

Extrusion 3D printers have a physical limit to the overhang that can be printed, this display mode shows the overhang with angle range and axis selection.

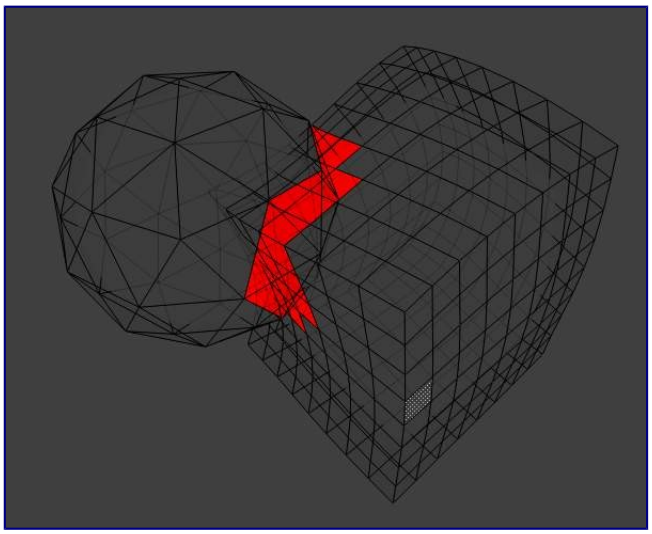
Thickness



Thickness

Printers have a limited *wall-thickness* where very thin areas can’t be printed, this test uses ray casting and a distance range to the thickness of the geometry.

Intersections

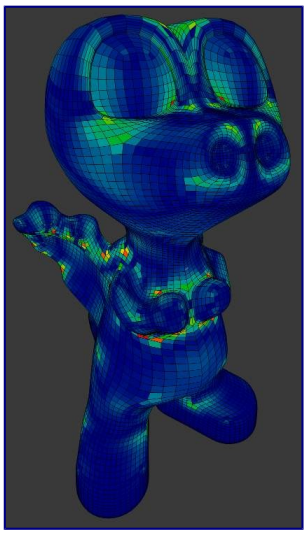


Intersecting faces

Another common cause of problems for printing are intersections between surfaces, where the inside/outside of a model can’t be reliably detected.

Unlike other display modes, intersections have no variance and are either on or off.

Distortion

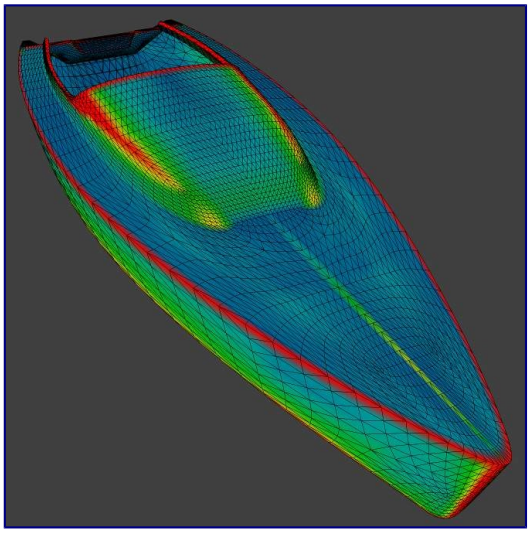


Distorted Faces

Distorted geometry can cause problems since the triangulation of a distorted ngon is undefined.

Distortion is measured by faces which are not flat, with parts of the face pointing in different directions.

Sharp Edges



Sharp edges

Similar to wall-thickness, sharp edges can form shapes that are too thin to be able to print.

Warning

There are some known limitations with mesh analysis

- Currently only displayed with deform modifiers.
- For high-poly meshes is slow to use while editing the mesh.