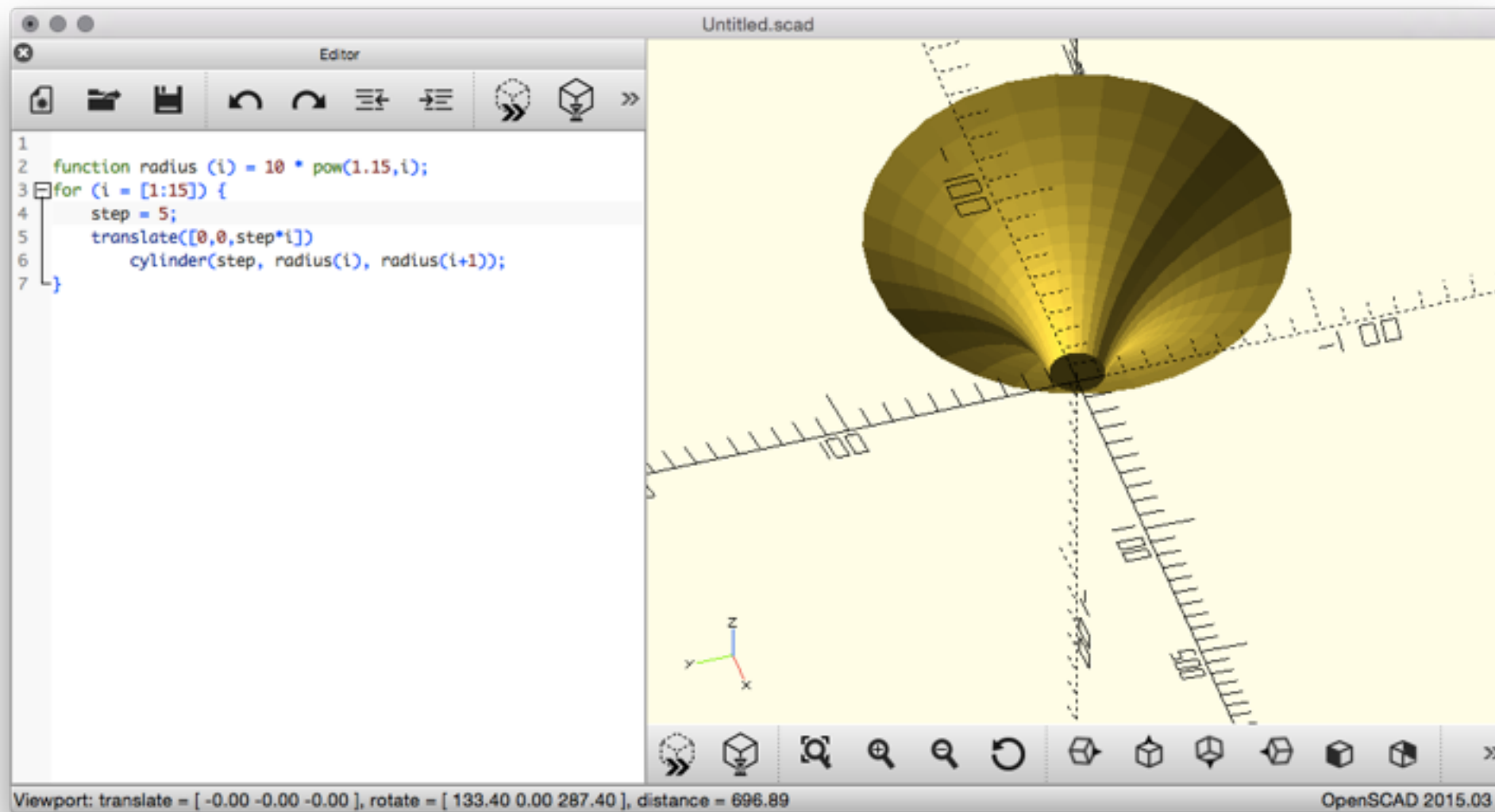




I am currently installing some new wheel and gear leg fairings on the plane which involves fabrication of new intersection fairings to cover the leg-to-wheel and leg-to-fuselage transition areas.

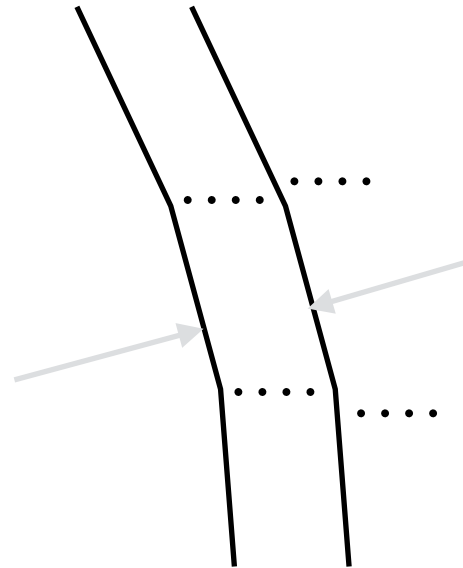
I was planning to make the intersection fairings out of formed sheet metal but it might be possible to 3-D print them if you are up for a challenge. They are commonly made in fiberglass because of the complexity of the shape. They would be the right size for your printer and have thin cross sections so not much material would be involved.



I don't know how to model or to print this shape. That makes it interesting.

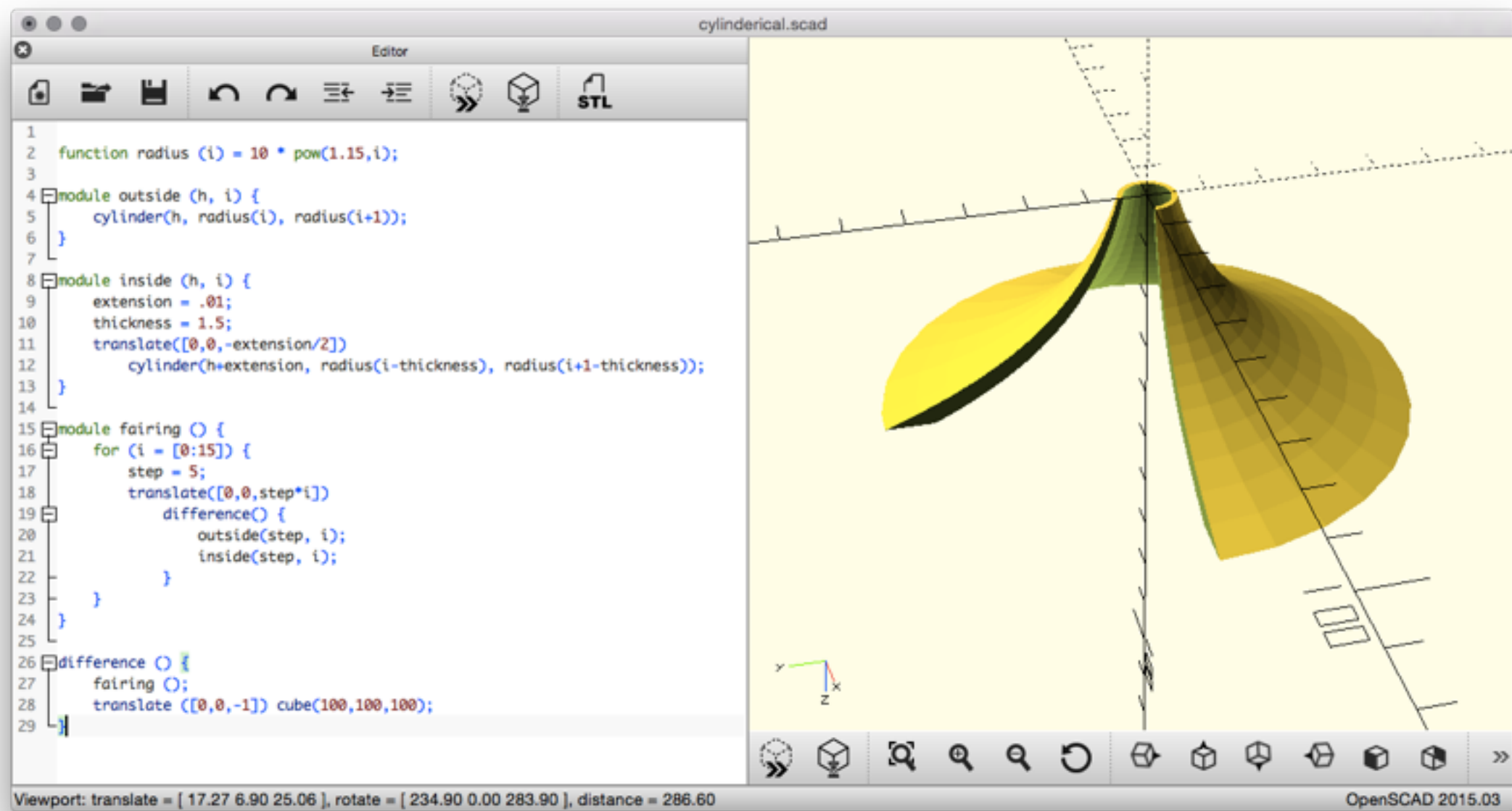
I've been using OpenSCAD which assembles models with unions and intersections of cubes and cylinders (or truncated cones). It has some algorithmic capability but mostly for step and repeat. It can also form a convex hull but your shape is concave. Small experiment attached.

The printer expects inputs as STL files, whatever those are. The printer will design removable scaffolding to support overhangs greater than 45 degrees.



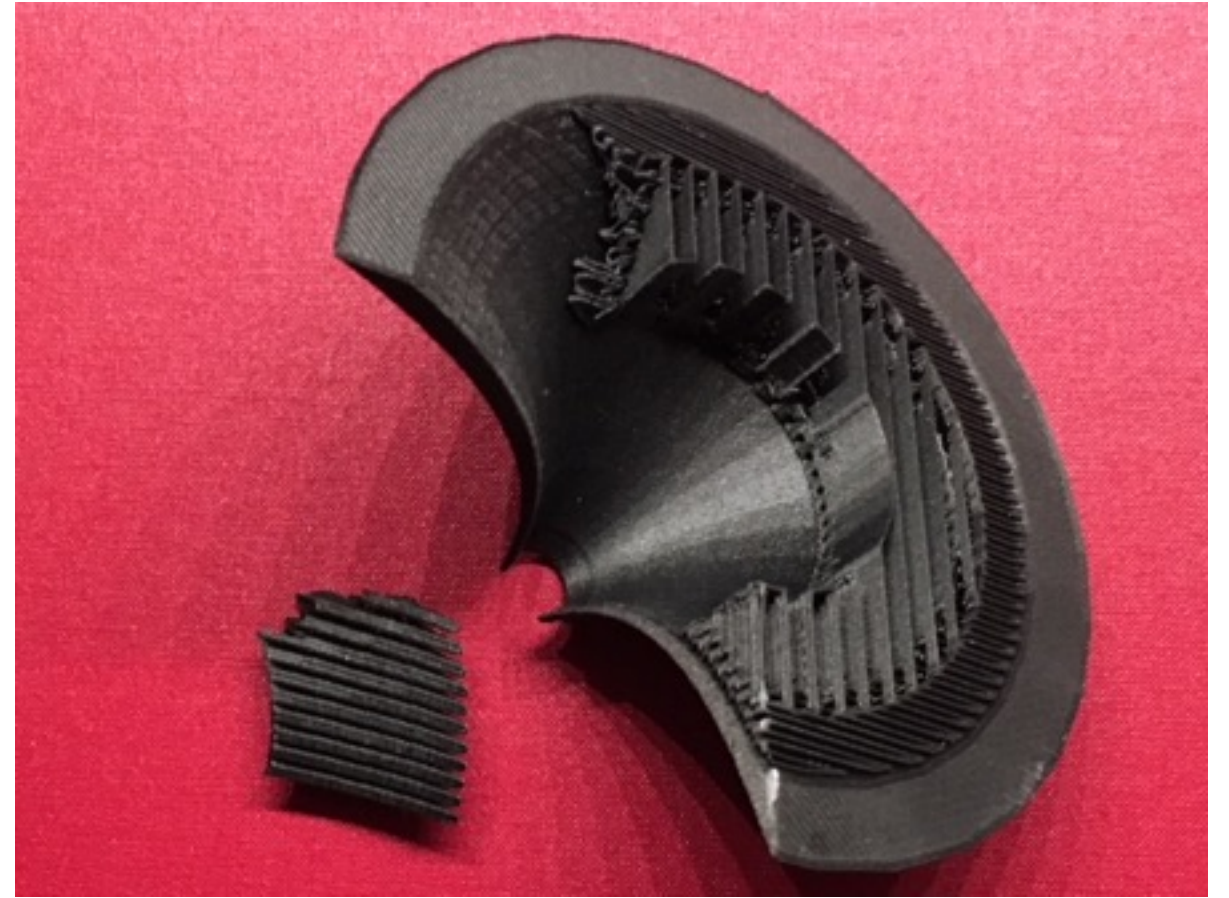
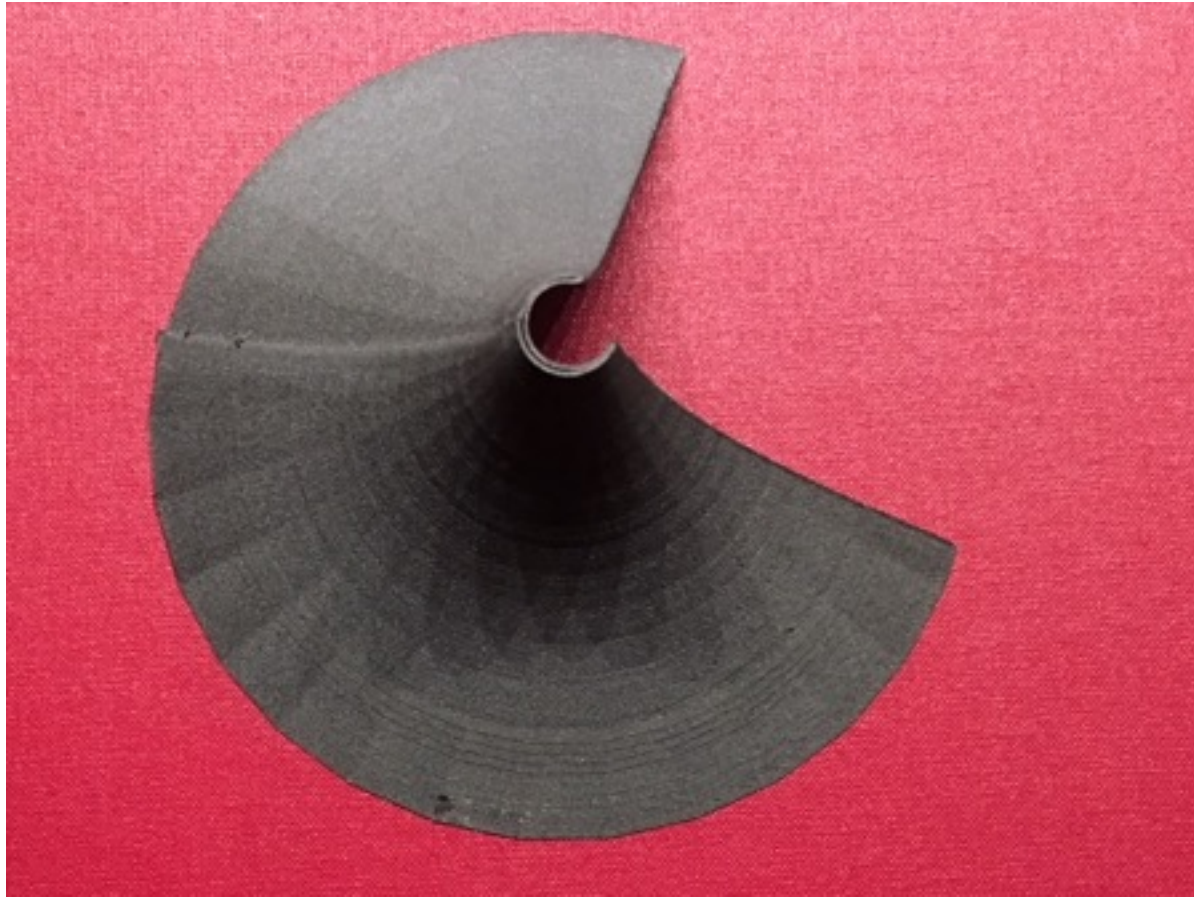
What negative adjustment would I make to the top and bottom radius of a second cylinder to be removed from each step so that the volume thickness would be small and uniform along a surface normal?

This calculation is complicated by the vertical expansion required of the negative cylinder so as to not create ambiguous planes that might or might not be removed.



I neglect thickness uniformity and try a print.





Some support material removed.