

**NAME**

genrev - generate a RADIANCE description of surface of revolution

**SYNOPSIS**

**genrev** **mat name** '**z(t)**' '**r(t)**' **nseg** [ **-e** **expr** ] [ **-f** **file** ] [ **-s** ]

**DESCRIPTION**

*Genrev* produces a RADIANCE scene description of a surface of revolution. The object will be composed of *nseg* cones, cups, cylinders, tubes or rings following the parametric curve defined by  $z(t)$  (height) and  $r(t)$  (radius). When  $z$  is increasing with  $t$ , the surface normal points outward. When  $z$  is decreasing, the normal points inward. The variable  $t$  used in the function expressions varies from 0 to 1 in even steps of  $1/nseg$ . The expressions are of the same type used in RADIANCE function files. Auxiliary expressions and/or files may be specified in any number of  $-e$  and  $-f$  options. The variable and function definitions in each  $-f$  *source* file are read and compiled from the RADIANCE library where it is found. The  $-s$  option smooths the surfaces using Phong normal interpolation.

**EXAMPLE**

To generate a torus with an inner radius of 1 and an outer radius of 3:

```
genrev steel torus 'sin(2*PI*t)' '2+cos(2*PI*t)' 32
```

**ENVIRONMENT**

RAYPATH                      the directories to check for auxiliary files.

**AUTHOR**

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**SEE ALSO**

genbox(1), gencat(1), genprism(1), gensurf(1), genworm(1), rcalc(1), rpict(1), rvu(1), xform(1)