

**NAME**

aperture – generalized aperture program

**SYNOPSIS**

**aperture** *parameters*

**DESCRIPTION**

**aperture** is a generalized aperture program designed to simulate the effects on the incident ray stream of apertures in physical obstructions (such as the X-ray and thermal baffles). It can handle a wide variety of aperture shapes, and has provisions to allow alteration of the rays by the apertures. The philosophy behind **aperture** is that a geometrically complicated aperture may be modeled by a combination of geometrically simpler apertures. Rather than modeling each complex aperture with a separate program, if a flexible means of specifying the combinations of simple apertures were devised, a single program could model a wide range of shapes.

For more information, see the reference manual.

**ARGUMENTS**

**aperture** uses an IRAF-compatible parameter interface.

The following parameters are available:

**aperture**

The filename of the **lua** program which defines the aperture.

**override**

**Lua** code that will be made available to the **Lua** definition program as the function *override()*. This can either be actual code, for example

```
aperture override='energy=1.49; shell=3'
```

or it may be the name of a file containing the **Lua** code. In the latter, the first character should be the @ character:

```
aperture override=@code.lua
```

**input**

The name of the input ray stream. If it is the string `stdin`, **aperture** will read from the standard input stream.

**output**

The name of the output ray stream. If it is the string `stdout`, **aperture** will write to the standard output stream.

**loop**

A Boolean variable indicating that rays that have been redirected by an assembly should be checked against that assembly first, rather than being checked against the next assembly.

**statfname**

The filename to output the accumulated statistics of the apertures. See “OUTPUT STATISTICS” for more information

**help**

Print some documentation and exit.

**version**

Print the version and exit.

**OUTPUT STATISTICS**

The output file is an RDB table containing a column for the name of the aperture and columns for all possible outcome of the interaction of the ray with the aperture. The prefix `n` and `w` (for example `nblocked` and `wblocked`) stands for the number and weight respectively.

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**VERSION**

This documents version 2.0.1 of **genphot**.

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