

**NAME**

raygen – generate rays

**SYNOPSIS**

**raygen** *options*

**PARAMETERS**

**raygen** uses an IRAF compatible parameter file.

It takes the following parameters

cfgfile

A **Lua** script (if `cfgpars` ends in `.lua`) or **Lua** statements to initialize the source creation environment.

cfgpars

A **Lua** script (if `cfgpars` ends in `.lua`) or **Lua** statements to create sources.

output

The output file. If it is the string `stdout`, the rays are written to the UNIX standard output stream.

logfile

A file to which logging output should be written. If it is the string `stderr` the rays are written to the UNIX standard error stream.

tstart

The start time of the observation in seconds. If less than zero and jitter is turned on, the start of the valid jitter time range is used.

limit

The quantity of whatever `limit_type` specifies that **raygen** must generate. If `limit_type` is a unit of time, this is added to the start time (see `tstart`) to determine the stop time of the simulation. If jitter is on and this is set to 0, then the stop time is set equal to the end of the valid jitter time range.

limit\_type

This determines how **raygen** knows when to stop outputting rays. It determines what the `limit` parameter specifies. It can one of the following values:

rays

the number of rays

k rays

the number of rays, in units of one thousand rays

M rays

the number of rays, in units of one million rays

sec

the time to run, in seconds

k sec

the time to run, in units of one thousand seconds

r/cm<sup>2</sup>

rays per square centimeter at the entrance aperture

r/mm<sup>2</sup>

rays per square millimeter at the entrance aperture

seed1

The first seed for the random number generator. It must be in the range [1,2147483562].

seed2

The second seed for the random number generator. It must be in the range [1,214748339]

**block**

The random number block to start at. It must be in the range [0,1048575].

**debug**

A list of debug flags; none are presently available.

**version**

Output the version to the UNIX standard error stream and exit.

**help**

Output a help message and exit.

**DESCRIPTION**

For more information, see the full manual.

**COPYRIGHT & LICENSE**

Copyright 2006–2012 Smithsonian Astrophysical Observatory

This software is released under the GNU General Public License. You may find a copy at

<http://www.fsf.org/copyleft/gpl.html>

**VERSION**

This documents version 2.6.3 of **raygen**.

**AUTHOR**

Diab Jerius ( [djerius@cfa.harvard.edu](mailto:djerius@cfa.harvard.edu) )