

Octave / MATLAB Toolbox for GDS II Stream Format

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All functions in this toolbox are in the Public Domain, with the following exceptions:

- Boolean/clipper.hpp and Boolean/clipper.cpp are subject to the Boost Software license 1.0: http://www.boost.org/LICENSE_1_0.txt
- Structures/private/datamatrixmex.c is subject the GNU Public License version 2: <http://www.gnu.org/licenses/gpl-2.0.html>
- Basic/gdsio/convert_float_gcc.h is subject to the GNU Public License version 3: <http://www.gnu.org/copyleft/gpl.html>
NOTE: This file is only used when the toolbox is compiled with GCC, otherwise 'convert_float_generic.h' is used instead, which is in the Public Domain.

New versions of the toolbox can be downloaded from:

<https://sites.google.com/site/ulfgri/numerical/gdsii-toolbox>

These functions are particularly useful when a layout is the result of a computation. MATLAB / Octave can then be used as a macro language for writing the layout.

Functions

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Toolbox functions are grouped into the following directories:

Basic:

Contains the low level functions for reading and writing of files in GDS II stream format and defines objects and methods for working with GDS II layouts.

Elements:

Contains functions that return gds_element objects.

Structures:

Contains functions that return gds_structure objects

Boolean:

The GDS II toolbox contains a method that performs boolean set operations on boundary elements. This is described in more detail in the file: README-Boolean / README-Boolean.pdf

Misc:

Functions that don't return gds_* objects.

Scripts:

Command line scripts for Octave that can be run directly from the shell prompt in a Linux / Unix environment.

Compiling

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This software contains several MEX functions, which must be compiled with a C compiler (and a C++ compiler for the Clipper

library), before the library can be used. The C compiler must be sufficiently C99 conformant; the LCC compiler that is included with earlier versions of MATLAB will not compile many of the mex functions (see the MATLAB documentation for compiling external functions).

For Octave, the mex functions are compiled by executing

```
$ ./makemex-octave
```

at the shell prompt. In MATLAB the mex functions can be compiled by changing to the ./gdsii directory and running

```
>> makemex
```

at the MATLAB command prompt.

Useful Stuff

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Very good viewer and editor for GDS II files: <http://www.klayout.de>

Help

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If you find a bug in the software, please send a message to ulf.griesmann@nist.gov or ulfgri@gmail.com and I will try to fix it.