

Contents

Final Remarks

```
% VLFL_EXP58 - TUTORIAL to download STL files with the surface model of a human
% (by Tim Lueth, VLFL-Lib, 2020-AUG-29 as class: EXPERIMENTS)
%
% Introduced first in SolidGeometry 5.0
%
% See also: VLFL_EXP59
%
% VLFL_EXP58
%
% EXAMPLE:
% publishTL('VLFL_EXP58')
%
% See also: VLFL_EXP59
%
% Copyright 2020 Tim C. Lueth

% function VLFL_EXP58

% C=SGreadSTL('/Volumes/LUETH-WIN/STL Dateien/2017-12-17 Adam C by Dale Kramer.STL');
loadweb ADAM_C.mat; C=ADAM_C
```

loadweb: Access path to changed from "www.mimed.mw.tum.de" to "www.mw.tum.de/mimed/" in 2020 Aug.

loadweb: Access path to changed from "www.mw.tum.de/mimed/" to "www.mec.ed.tum.de/mimed/" in 2021 Nov.

Downloading "https://www.mec.ed.tum.de/fileadmin/w00cbp/mimed/Matlab_Toolboxes/ADAM_C.mat" into: /Volumes/LUETH-WIN/WIN AIM Matlab Libraries/SolidGeome

C =

struct with fields:

```
VL: [98331x3 double]
FL: [196610x3 double]
col: [82 71 66]
alpha: 65
stampname: '/Volumes/LUETH-WIN/STL Dateien/2017-12-17 Adam C by Dale Kramer.STL'
stampdate: '06-Sep-2020 04:58:49'
```

```
SGshrinktofit(C); C=ans
```

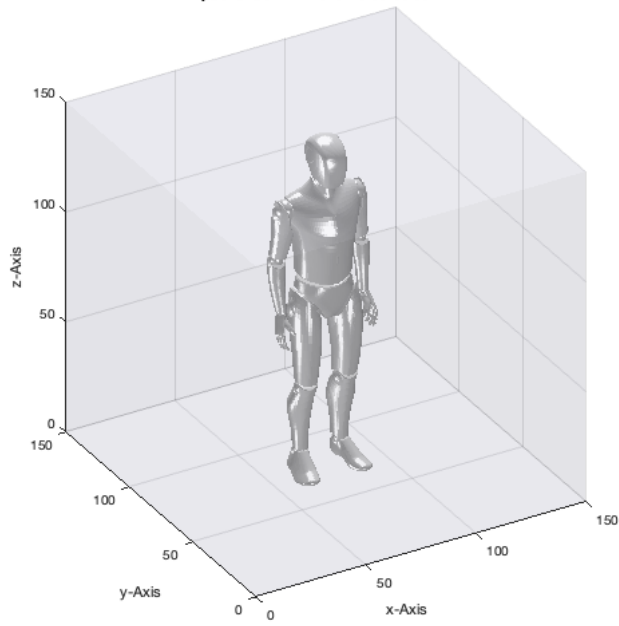
SGshrinktofit: Solid size shrunked by factor 12.35 to fit into box of size [150,150,150]!

C =

struct with fields:

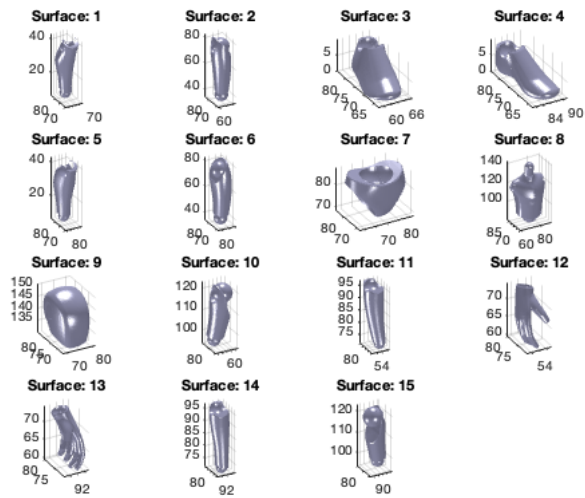
```
VL: [98331x3 double]
FL: [196610x3 double]
col: [82 71 66]
alpha: 65
stampname: '/Volumes/LUETH-WIN/STL Dateien/2017-12-17 Adam C by Dale Kramer.STL'
stampdate: '06-Sep-2020 04:58:49'
```

publishSGPDF: 2023-10-03 08:53:12



```
SGseparate(C)
```

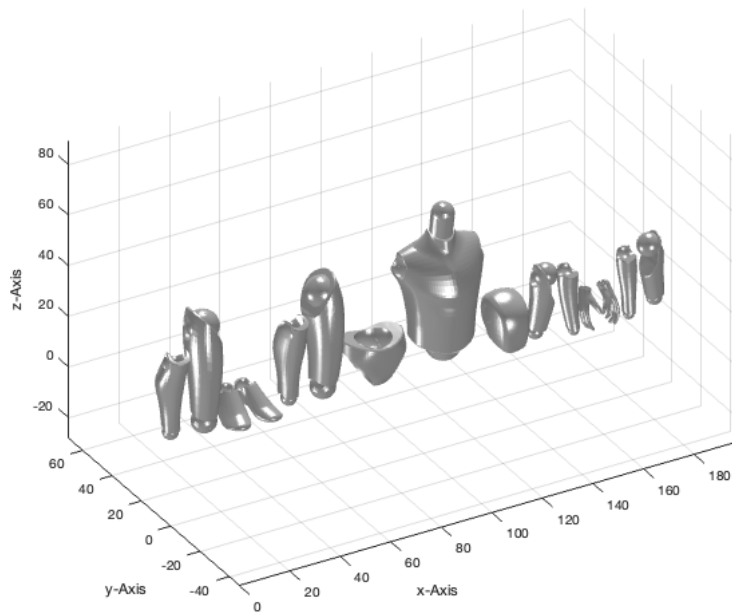
ans =
15



```
SGsurfaces(C); Ccell=ans
```

```
Ccell =  
15x1 cell array  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}  
{1x1 struct}
```


publishSGPDF: 2023-10-03 08:53:22



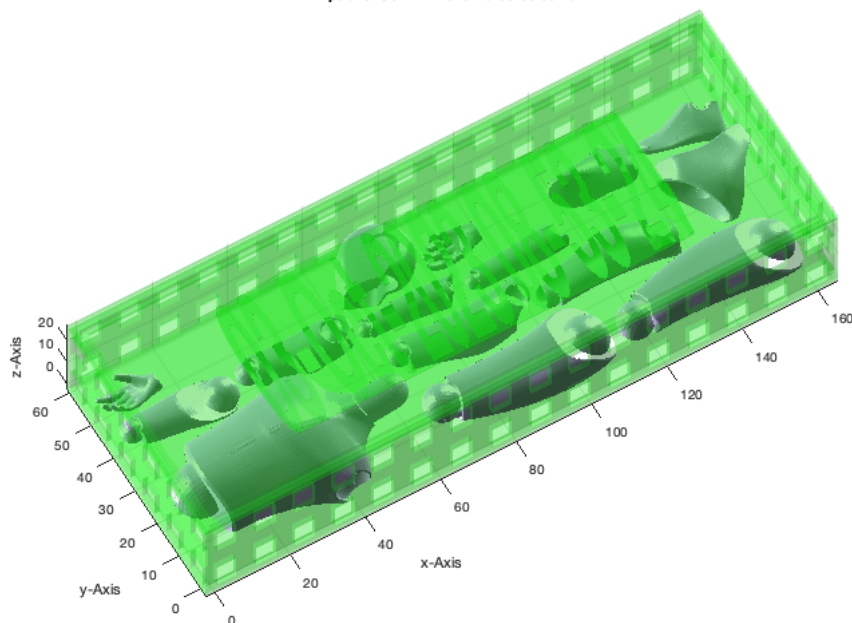
```
SGboxpacking(Ccell); SGeos=ans; SGwriteSTL(SGeos, 'Adams for FORMIGA');
```

```
binpacking3D: Packing 15 objects (h=93):
```

```
VLFLtextattachVLUL: Text "03-Oct-2023 08-53-24" attached to union Nr: 2
```

```
publishSGPDF:<a href = "matlab: openbydoubleclick ('/Users/timlueth/Desktop')">/Users/timlueth/Desktop/</a><a href = "matlab: openbydoubleclick ('/User
```

publishSGPDF: 2023-10-03 08:53:29



```
SGwriteSeparatedSTL(Ccell(7:8), 'ADAM 1st Test');
```

```
SGwriteSeparatedSTL: Writing 2 STL files in /Users/timlueth/Desktop/STLsep ADAM 1st Test/
```

```
publishSGPDF:<a href = "matlab: openbydoubleclick ('/Users/timlueth/Desktop/STLsep ADAM 1st Test')">/Users/timlueth/Desktop/STLsep ADAM 1st Test/</a>
```

```
publishSGPDF:<a href = "matlab: openbydoubleclick ('/Users/timlueth/Desktop/STLsep ADAM 1st Test')">/Users/timlueth/Desktop/STLsep ADAM 1st Test/</a>
```

```
A=SGreadSTL('/Volumes/LUETH-WIN/STL Dateien/2017-12-17 Adam A by Dale Kramer.STL');
```

```
loadweb ADAM_A.mat; A=ADAM_A
```

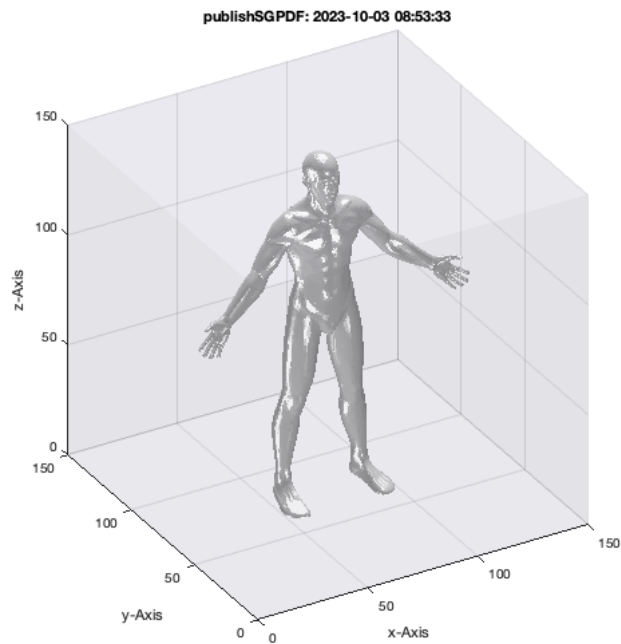
```
loadweb: Access path to changed from "www.mimed.mw.tum.de" to "www.mw.tum.de/mimed/" in 2020 Aug.
loadweb: Access path to changed from "www.mw.tum.de/mimed/" to "www.mec.ed.tum.de/mimed/" in 2021 Nov.
Downloading "https://www.mec.ed.tum.de/fileadmin/w00cbp/mimed/Matlab_Toolboxes/ADAM_A.mat" into: /Volumes/LUETH-WIN/WIN AIM Matlab Libraries/SolidGeome
A =
  struct with fields:

    VL: [15012x3 double]
    FL: [30000x3 double]
    Tname: {}
    T: {}
    TFIL: {}
    stampname: '/Volumes/LUETH-WIN/STL Dateien/2017-12-17 Adam A by Dale Kramer.STL'
```

```
SGshrinktofit(A); A=ans
```

```
A =
  struct with fields:

    VL: [15012x3 double]
    FL: [30000x3 double]
    Tname: {}
    T: {}
    TFIL: {}
    stampname: '/Volumes/LUETH-WIN/STL Dateien/2017-12-17 Adam A by Dale Kramer.STL'
    FC: [30000x3 double]
```



```
A=SGreduceVLFL(A,30000)
```

```
A =
  struct with fields:

    VL: [15012x3 double]
    FL: [30000x3 double]
    Tname: {}
    T: {}
    TFIL: {}
    stampname: '/Volumes/LUETH-WIN/STL Dateien/2017-12-17 Adam A by Dale Kramer.STL'
```

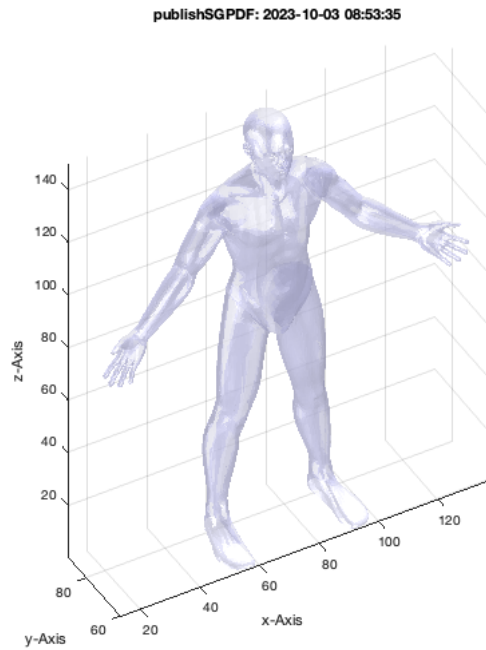
```
SGcheckmeshlab(A)
```

```
publish
OPEN BOUNDARY:
0 open boundary groups
```

```

0 open boundary edges
NON MANIFOLD EGDES:
0 non manifold edges
0 faces over non manifold edges
NON MANIFOLD VERTICES:
6 independent surfaces
0 non manifold vertices
0 faces over non manifold vertices
SELF INTERSECTING FACETS:
too many facets (30000>300) for a self-intersection check
ans =
    0     0     0     0

```



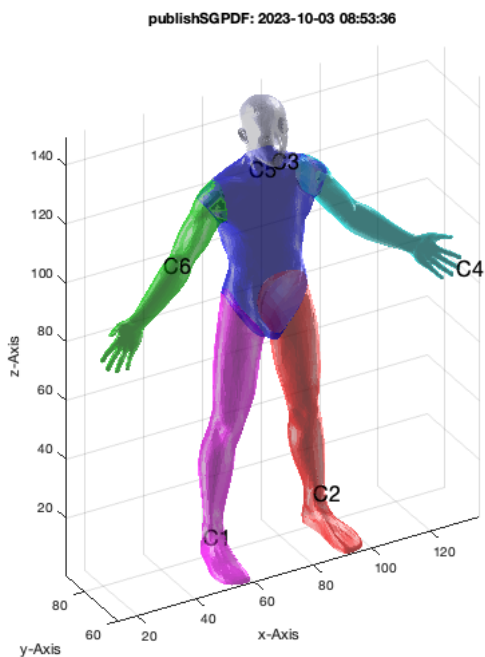
GREEN = Open boundaries: 0 MAGENATA = Non manifold edges: 0 RED = Non manifold vertices: 0
--

```
SGsurfaces(A); AC=ans
```

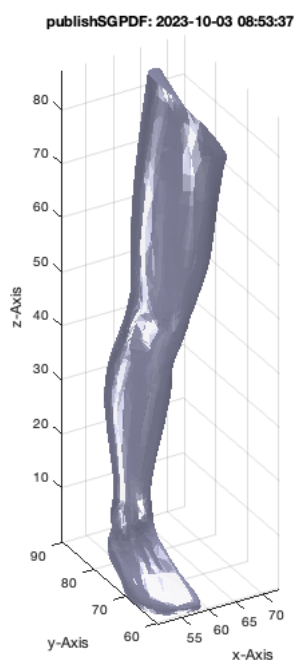
```

AC =
6x1 cell array
{1x1 struct}
{1x1 struct}
{1x1 struct}
{1x1 struct}
{1x1 struct}
{1x1 struct}

```



```
A1=AC{1};
SGfigure(-30,30); SGplotalpha(A1,'w',0.9);
```



Final Remarks

```
close all
VLFLlicense
```

This VLFL-Lib, Rel. (2023-Oct-03), is for limited non commercial educational use only!
 Licensee: Tim Lueth (Development Version)!
 Please contact Tim Lueth, Professor at TU Munich, Germany!
 WARNING: This VLFL-Lib (Rel.) license will exceed at 06-Jul-2078 08:53:38!
 Executed 03-Oct-2023 08:53:40 by 'timlueth' on a MACI64 using Mac OSX 13.6 | R2023a Update 5 | SG-Lib 5.4
 ===== Used Matlab products: =====
 database_toolbox
 distrib_computing_toolbox
 fixed_point_toolbox
 image_toolbox

```
map_toolbox
matlab
optimization_toolbox
pde_toolbox
simmechanics
simscape
simulink
=====
```

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