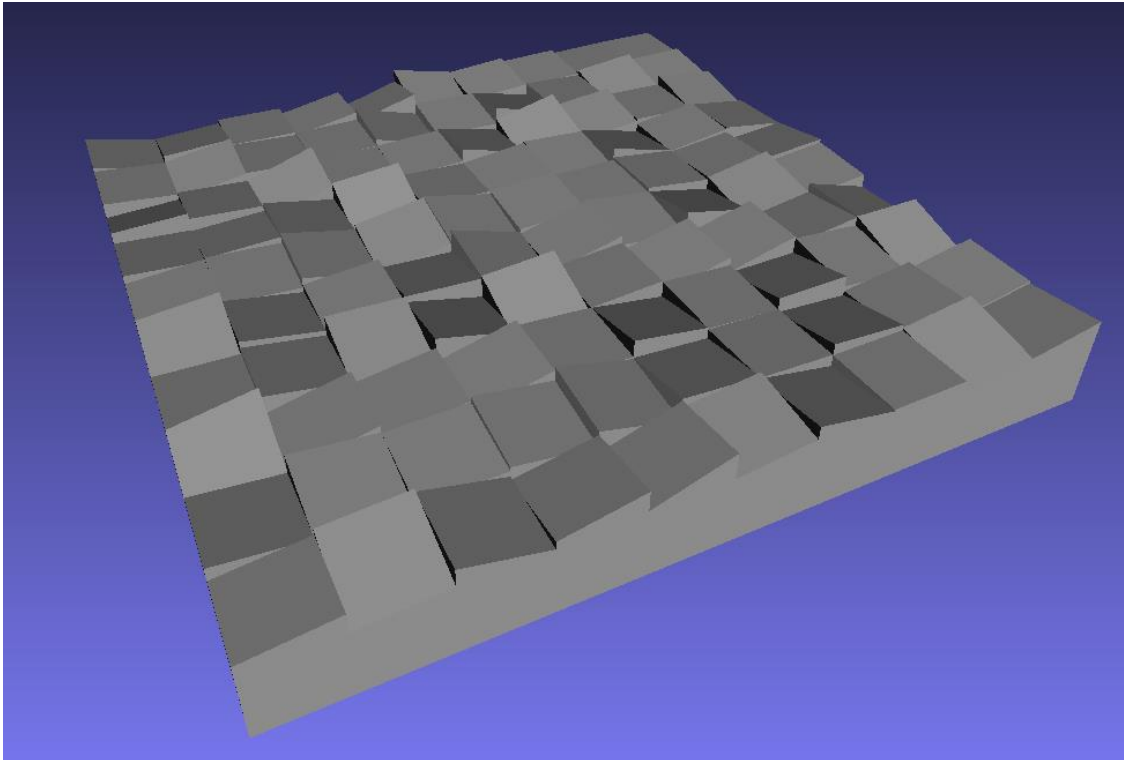


## Export of Fabrication Data

# Abstract

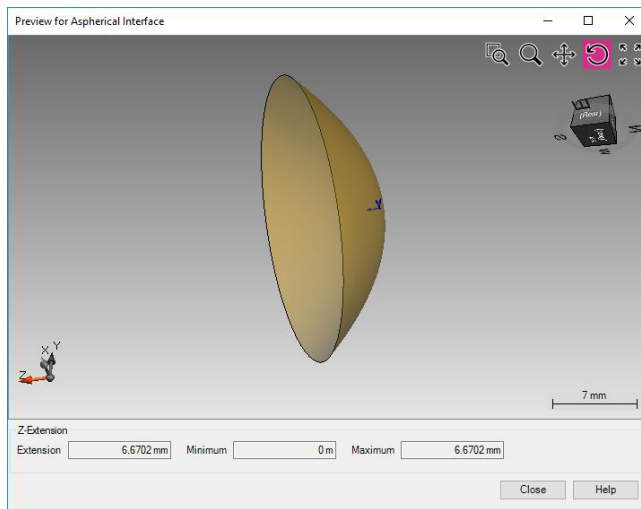


After designing an optical interface, it is essential for the users to export proper fabrication data, which is readily used by the manufacturers. VirtualLab can export smooth and quantized interfaces, as well as mirror/prism/grating cells arrays into various file formats, e.g., STL file format, which is widely used for rapid prototyping, 3D printing, and computer-aided manufacturing, and GDSII file format, which is commonly used in lithographic exposure techniques.

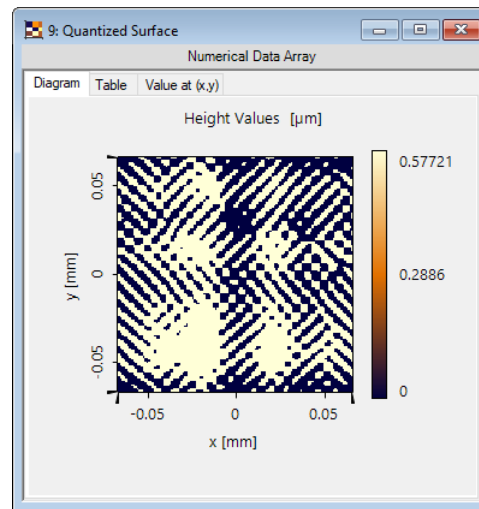
# Task Illustration

flexible export of

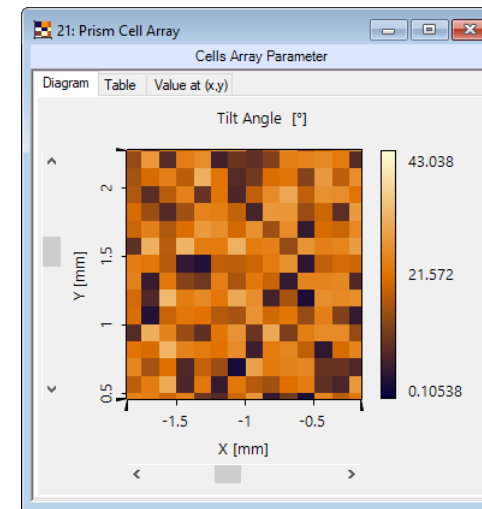
- smooth interfaces
- quantized interfaces
- mirror/prism/grating cells arrays



smooth interface



quantized interface

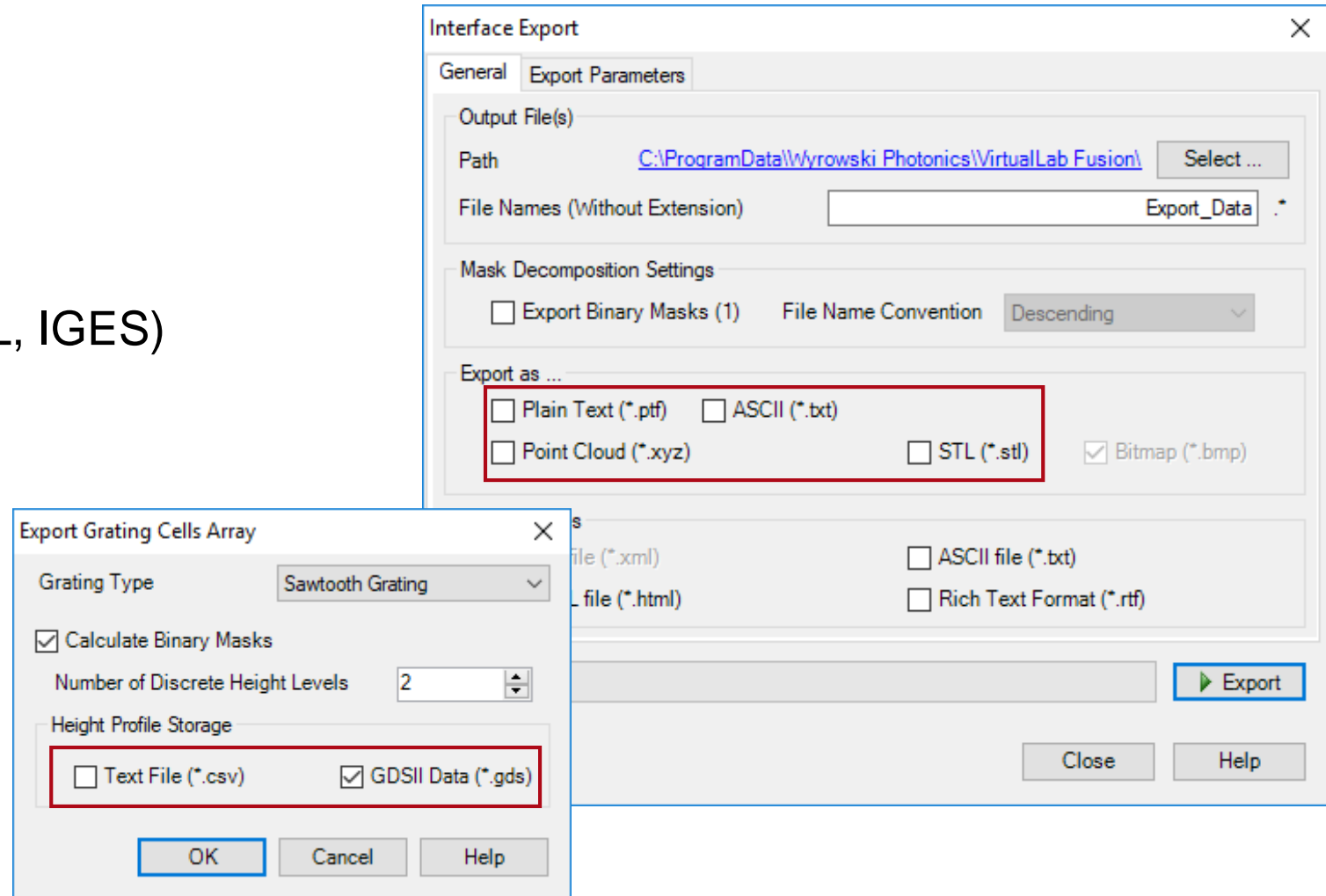


cells array

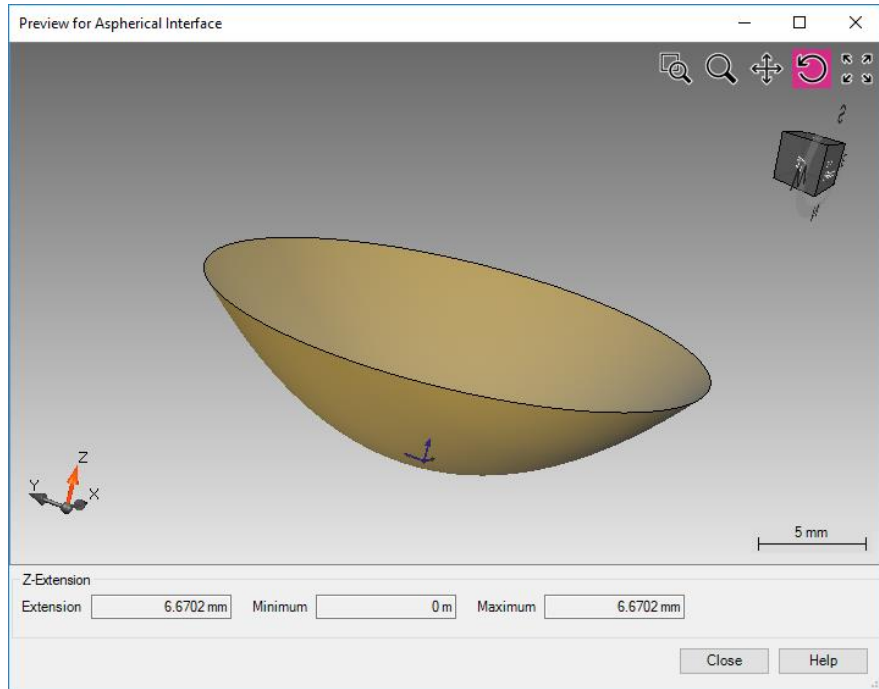
# Supported File Formats of Fabrication Data

## supported file formats

- plain text
- ASCII
- point cloud
- CAD formats (e.g., STL, IGES)
- CIF
- GDSII

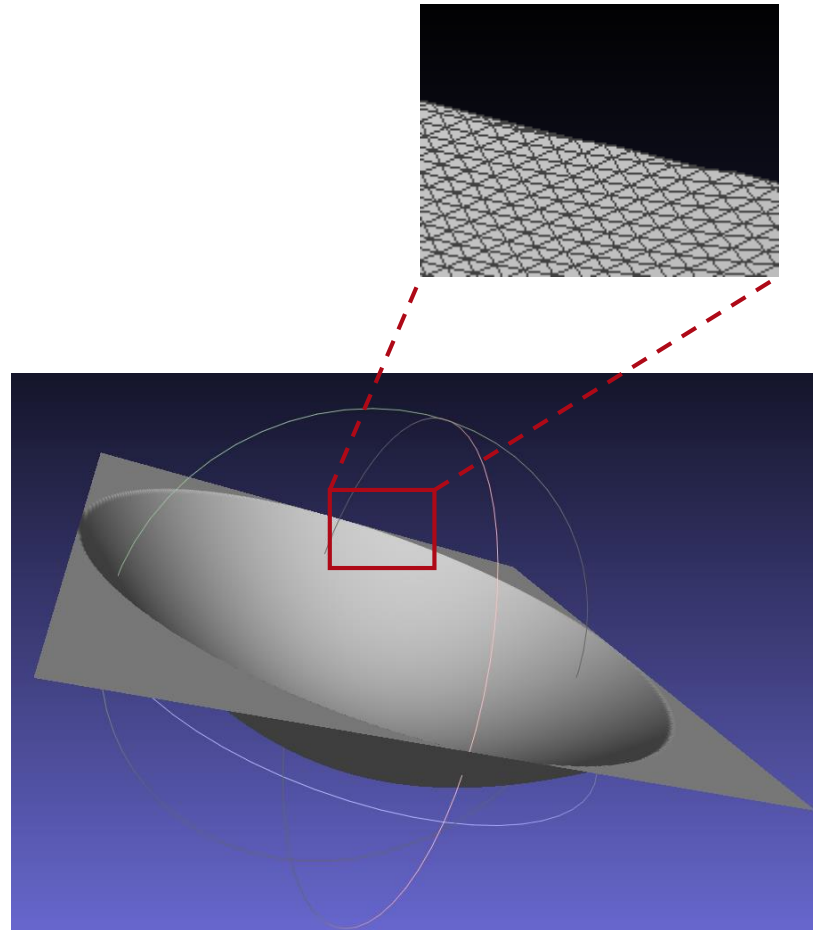


# STL Export of Smooth Interfaces (e.g. Asphere)



3D view of an aspherical interface in VirtualLab

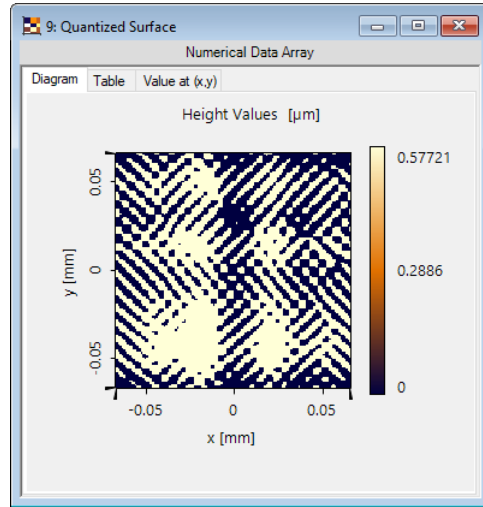
STL file format is widely used for rapid prototyping, 3D printing, and computer-aided manufacturing.



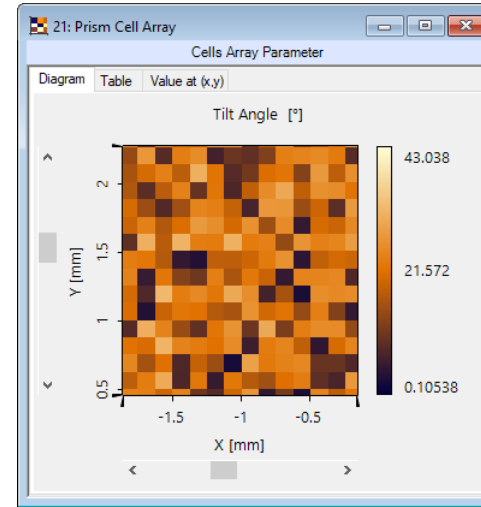
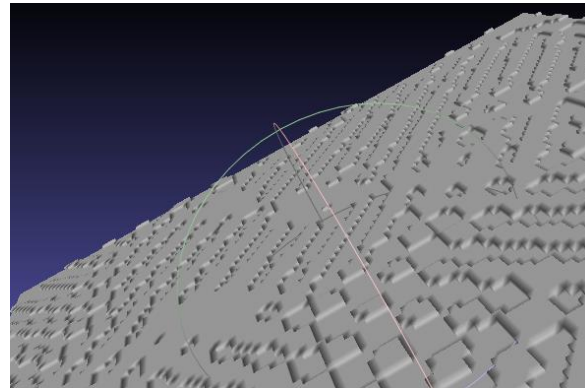
interface is described by triangles

STL export of an aspherical interface (illustrated by MeshLab)

# SLT Export of Quantized Interfaces and Prism/Mirror Cells Array

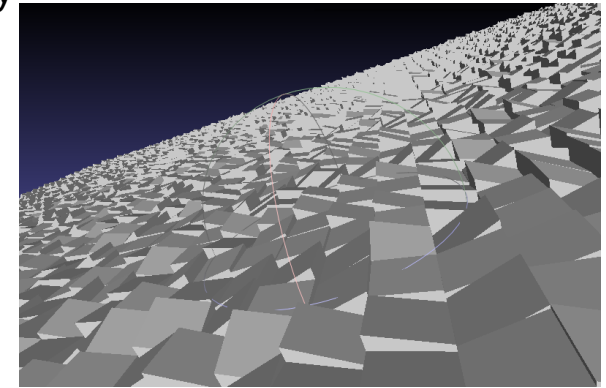


quantized interface  
(binary)

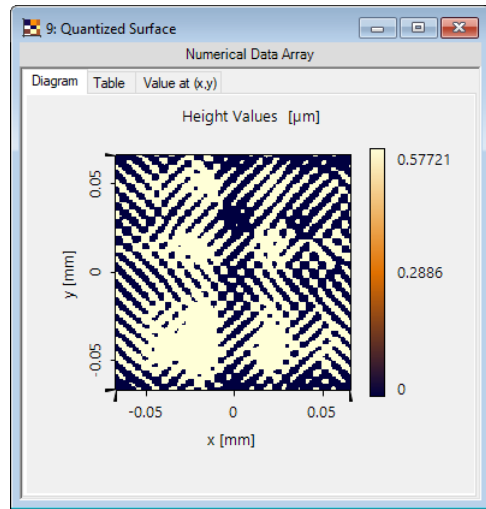


prism/mirror cells array

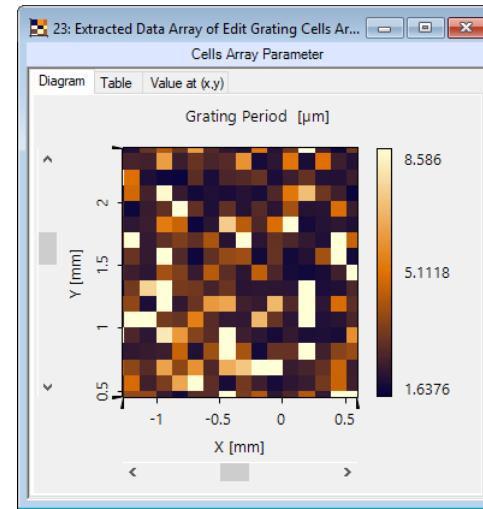
STL of a binary interface  
and  
prism/mirror cells array  
(illustrated by MeshLab)



# GDSII Export for Quantized Interfaces and Grating Cells Array



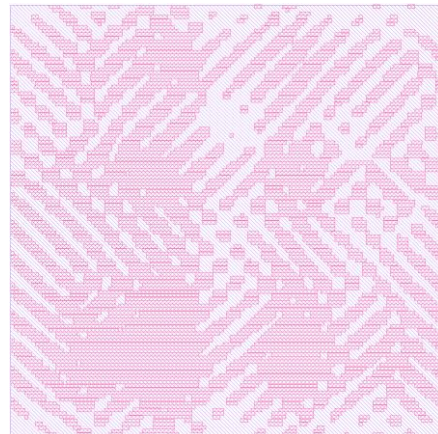
quantized interface  
(binary)



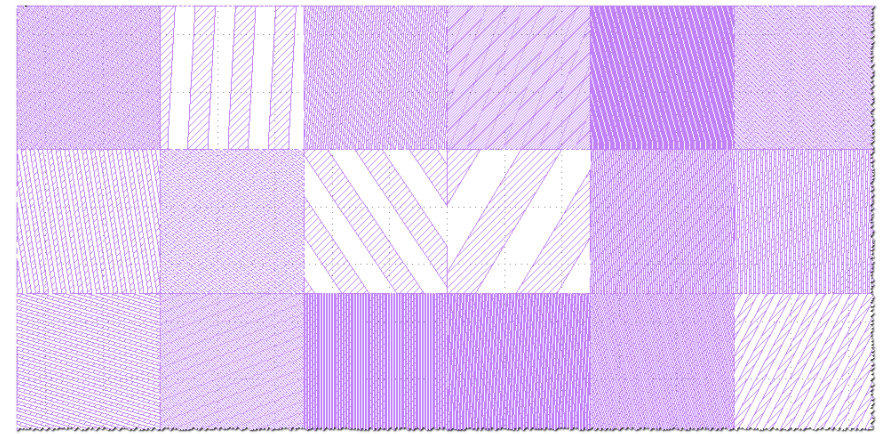
grating cells array



GDSII file format is commonly used, e.g., in lithographic exposure techniques.



GDSII of a quantized surface and a grating cells array (illustrated by KLayout)



# Document Information

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|                                 |                            |
|---------------------------------|----------------------------|
| title                           | Export of Fabrication Data |
| version                         | 1.0                        |
| VL version used for simulations | 7.3.1.15                   |
| category                        | Feature Use Case           |

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