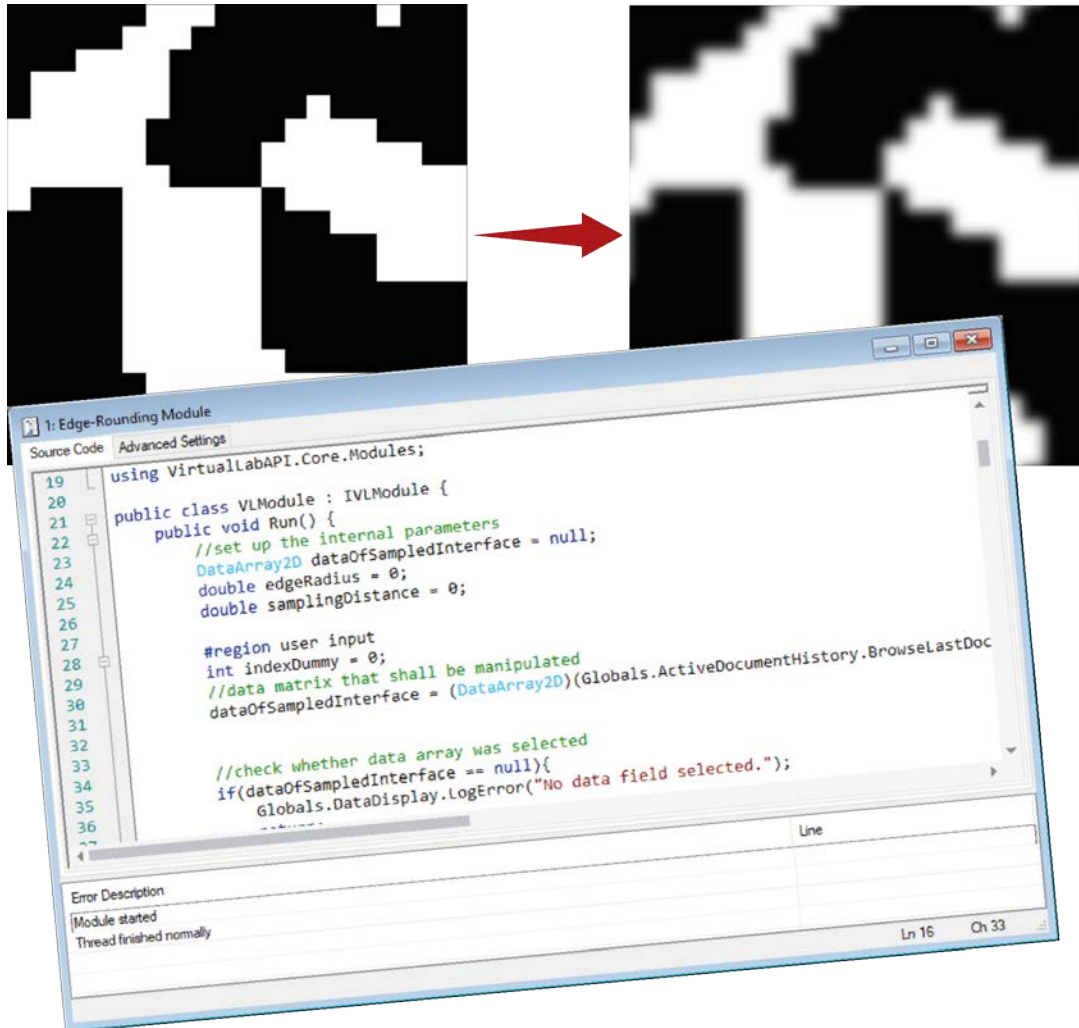


Programming a Module That Smooths the Edges of a Structure

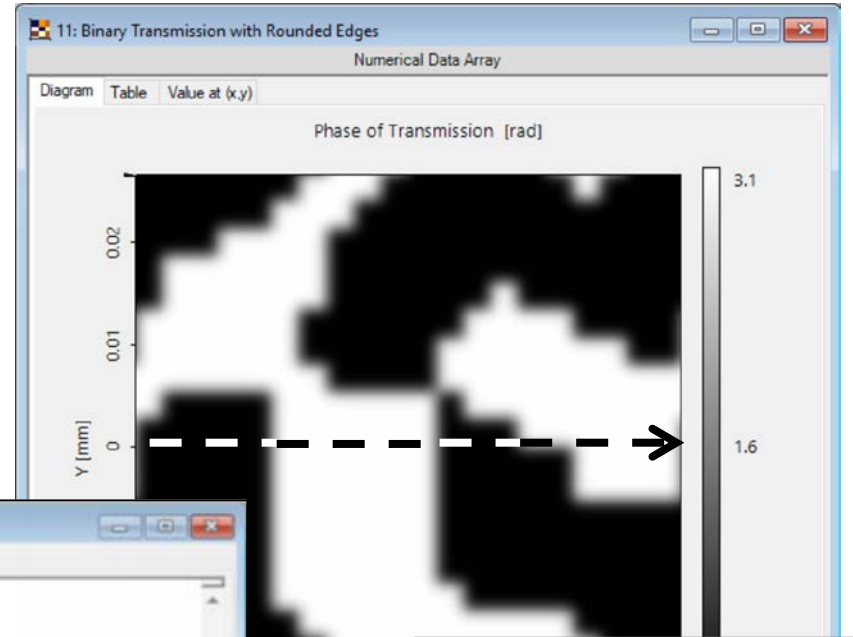
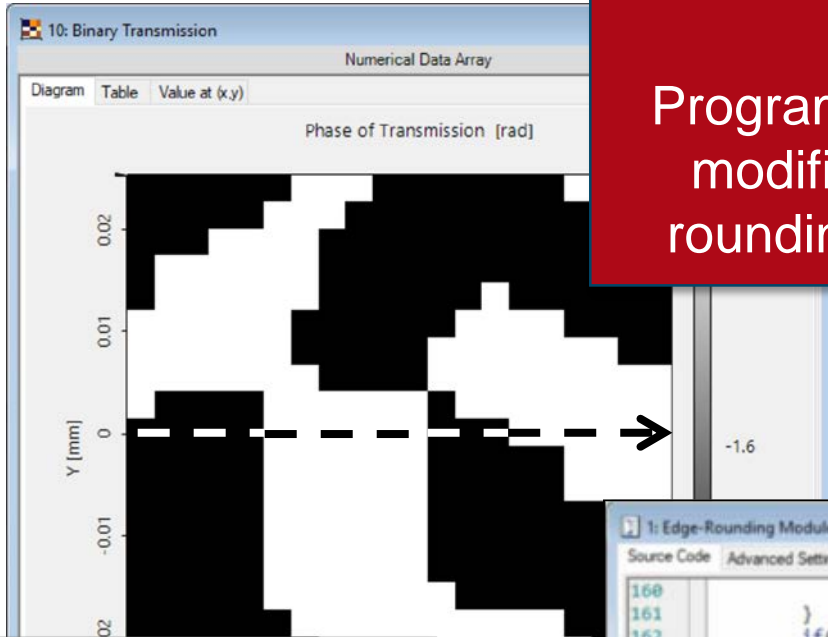
Abstract



Often, idealizations which are assumed in computational models turn out to deviate tangibly from reality. One such example is the design of a microstructure with sharp borders in the etched structure: fabrication techniques cannot achieve a perfectly sharp wall, and produce more rounded edges instead. This programmable module is designed to be applied to the sharp result of a designed structure, and it will round off the edges according to user-specified values, in order for a more realistic structure to be analyzed.

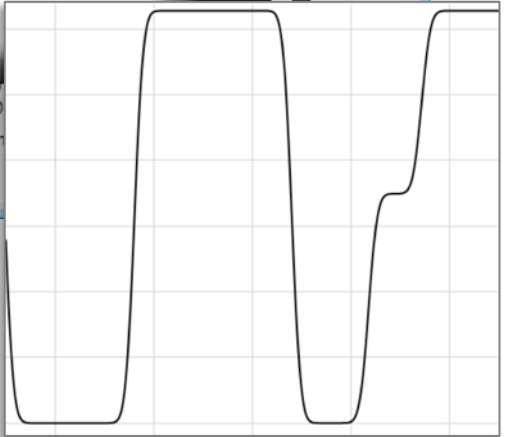
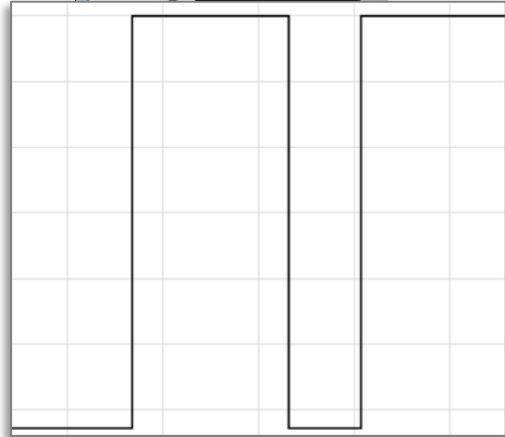
Programmable Module to Smooth Structure Edges

Task:
Programme a Module that
modifies a structure by
rounding its sharp edges



```
1: Edge-Rounding Module
Source Code  Advanced Settings
160     centerPointPixel.X -- 0.5;
161     }
162     if((numberSamplingPointsOriginalField.Y % 2) == 0){
163     centerPointPixel.Y -- 0.5;
164     }
165
166     //perform interpolation to data fields
167     for (int runDataSubSets = 0; runDataSubSets < dataOfSampledInterface.Dimensionality; runDataSubSets++)
168     fields[runDataSubSets] = ComplexFieldInterpolation.Interpolation(dataOfSampledInterface,
169     centerPointPixel,
170     dataOfSampledInterface,
171     new Extrapolation of Coordinates
172     {
173     DistanceX = sParaConvolution.SamplingDistanceX;
174     DistanceY = sParaConvolution.SamplingDistanceY;
175     });
176 }
```

Hint: The input and output of the module are of type "DataArray". See accompanying sample file for the full code!



Document Information

title	Programming a Module That Smooths the Edges of a Structure
document code	CZT.0024
version	1.0
toolbox(es)	Starter Toolbox
VL version used for simulations	7.4.0.49
category	Feature Use Case
further reading	<ul style="list-style-type: none">- How to Work with the C# Module and Example (Computing the Deviation Between Two Fields)- Programming a Module That Computes the Standard Deviation between Two Harmonic Fields