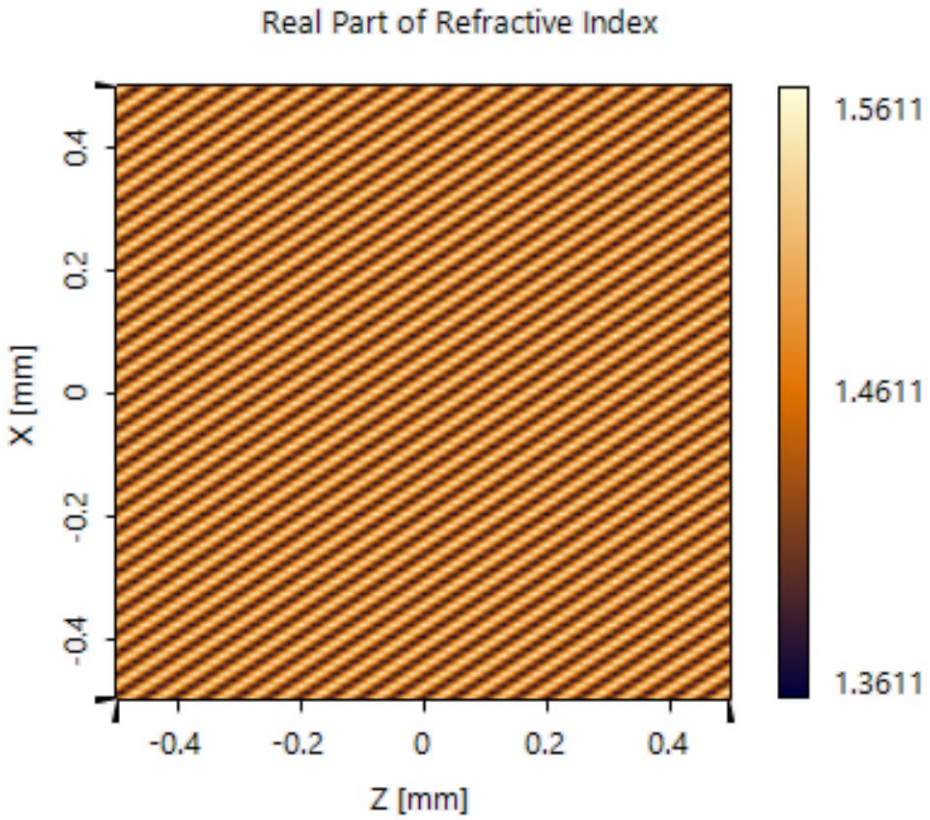
Programming a Sinusoidal Volume Grating

Abstract



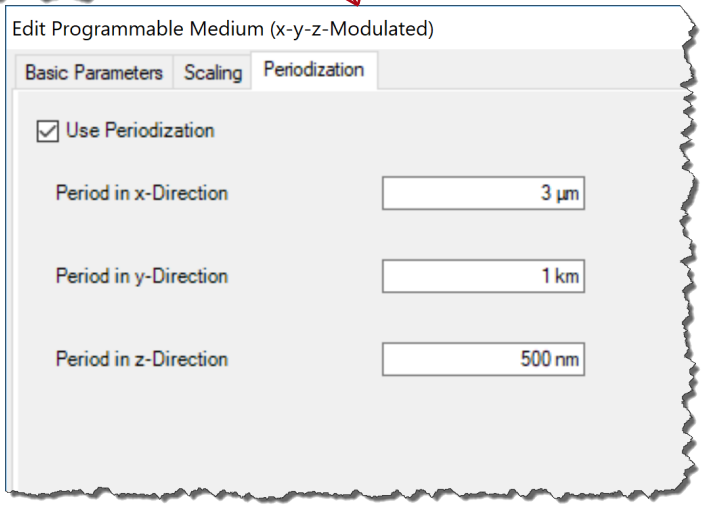
In this example, we demonstrate the generation of a sinusoidal-modulated volume grating medium, by using the Programmable Medium in VirtualLab Fusion. The corresponding code has been implemented in an exemplary optical setup, which can be modified for specific applications. Physical parameters, like the grating period and the refractive index modulation can be adjusted according to the application of the user.

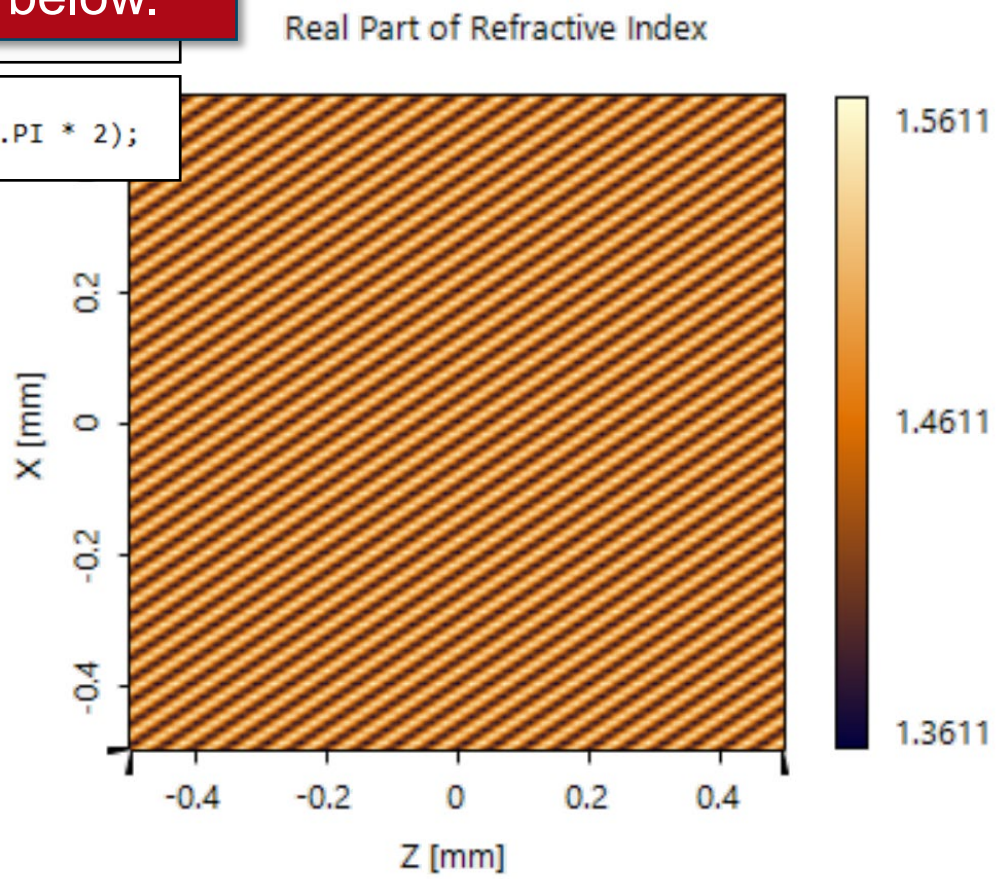
Creating a Sinusoidal Volume Grating

Task:
Create a sinusoidal volume grating according to the equation below.

Refractive Index Formula

```
realPart = dn * Math.Cos( (x / MediaPeriodX + y / MediaPeriodY + z / MediaPeriodZ) * Math.PI * 2);
```





Document Information

title	Programming a Sinusoidal Volume Grating
document code	CZT.0069
version	1.0
toolbox(es)	Starter Toolbox
VL version used for simulations	7.4.0.49
category	Feature Use Case
further reading	- How to Work with the Programmable Medium and Example (Thermal Lens)