

Shaping of White Light by Using Prism / Grating / Mirror Cells Arrays

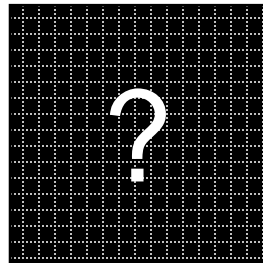
Abstract



Micro-optical elements, like gratings, prisms and mirrors can be arranged to deflect light into expected direction and so to generate customized patterns. Such cells arrays are often used behind LED sources, and the design of cells arrays requires proper consideration on colors and coherence. In this example, cells arrays consisting of gratings, prisms and mirrors are designed to generate a LightTrans logo.

Design Task

How to design a cells array for generation of desired light pattern?



cells array structure consists of

- prisms
- gratings
- mirrors

- array size 12.5x12.5mm
- number of cells 100x100

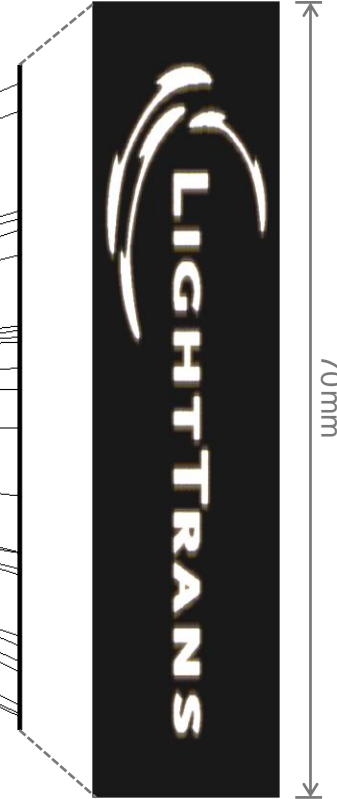


LED source

- emitter size 100x100 μ m
- RGB white light [473, 532, 635nm]

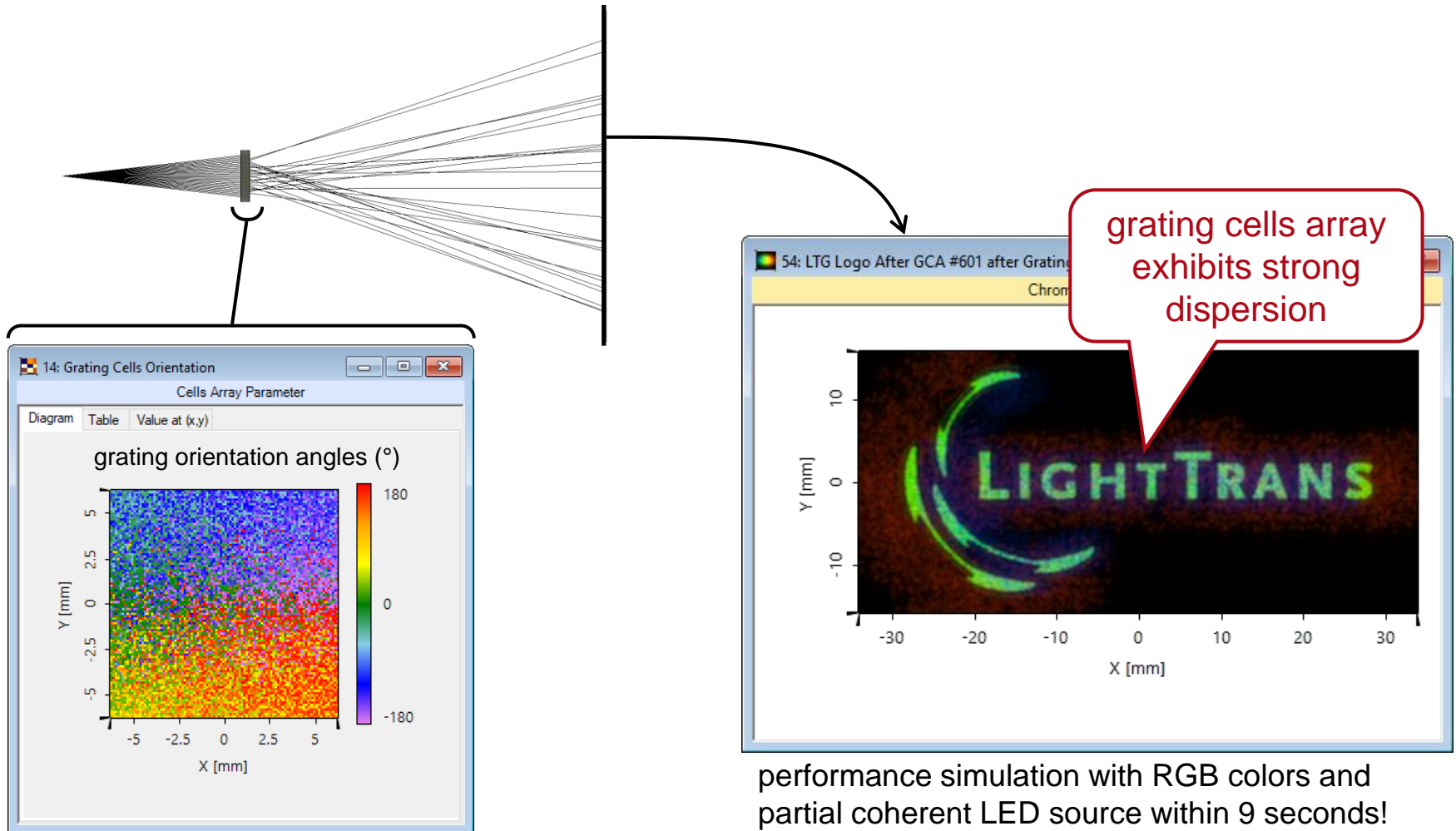


30mm

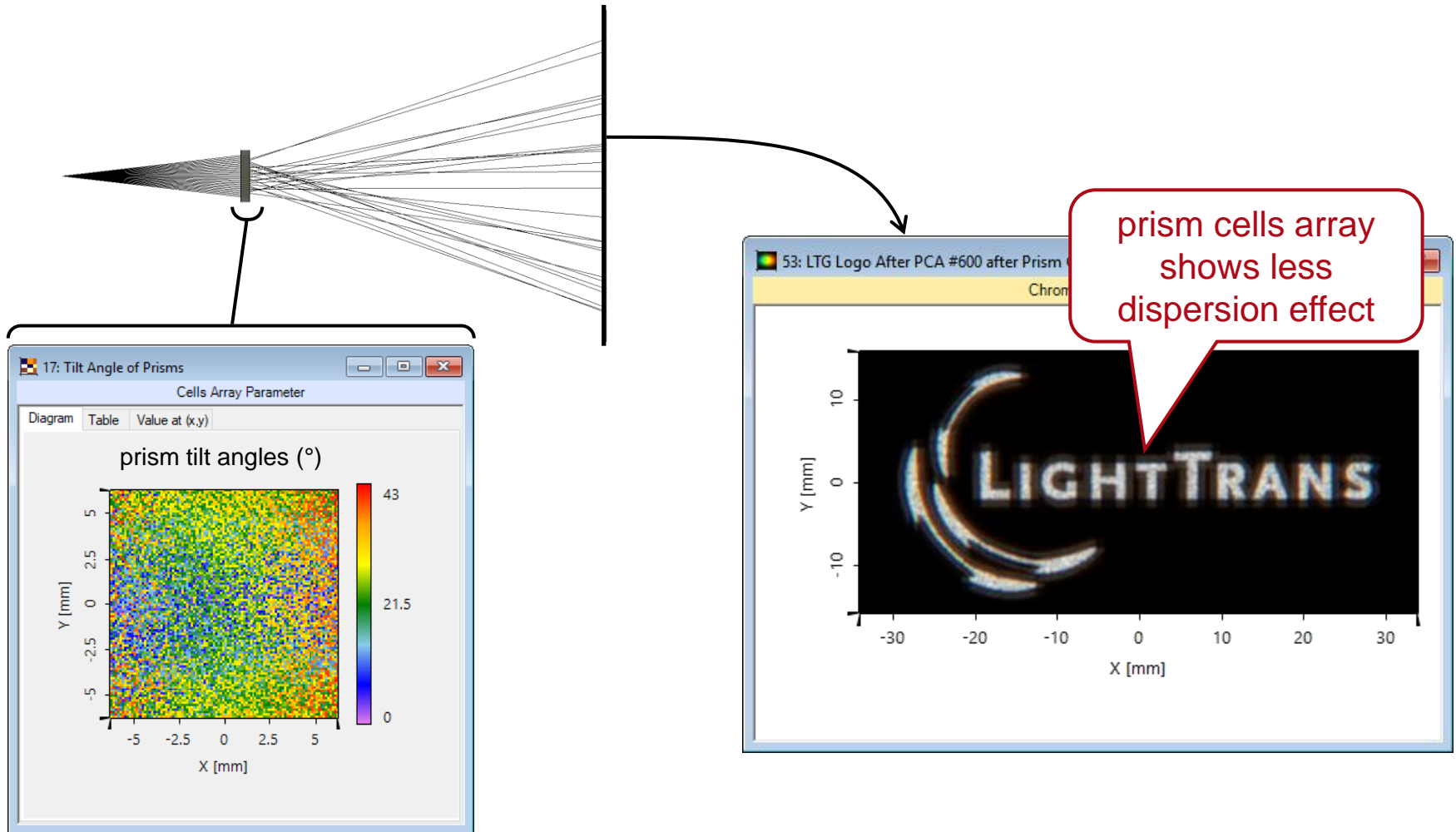


70mm

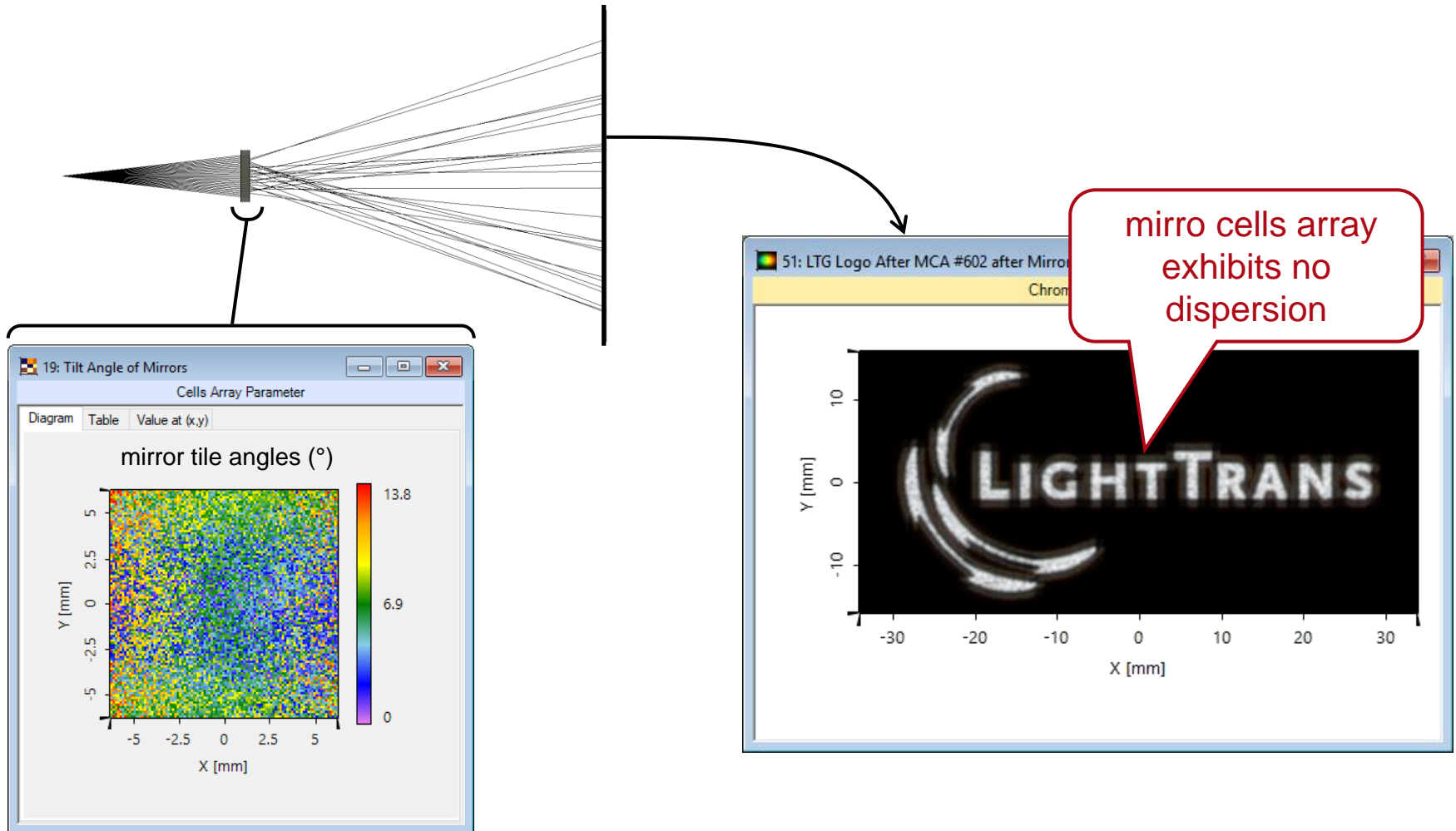
Results – Grating Cells Array



Results – Prism Cells Array



Results – Mirror Cells Array



Document Information

title	Shaping of White Light by Using Prism / Grating / Mirror Cells Arrays
version	1.0
VL version used for simulations	7.0.3.4
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