



Spatial Resolution Enhancement in a Grating WFS

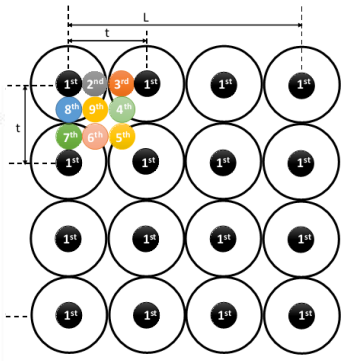
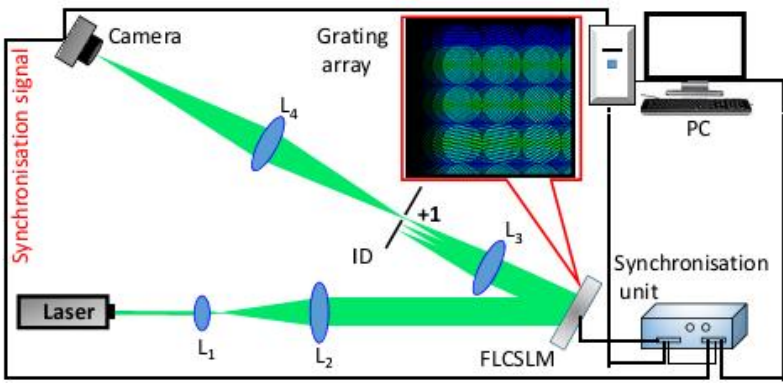
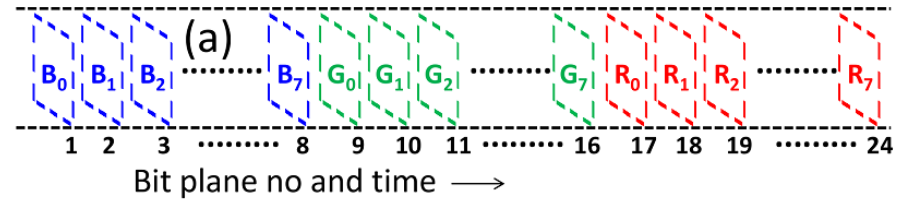


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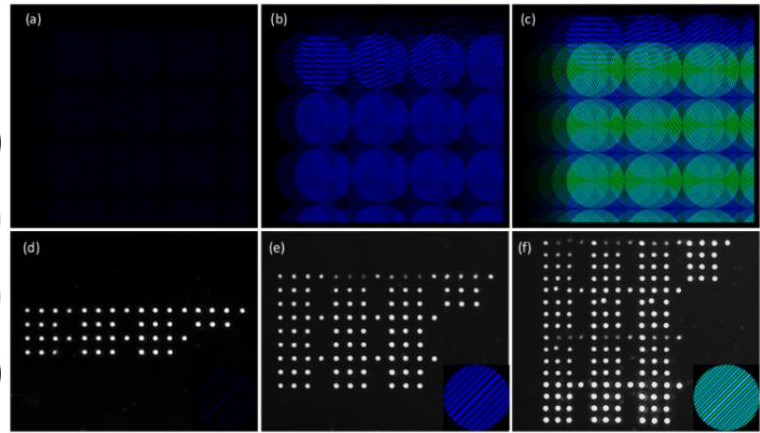
We have introduced a novel scheme to enhance the spatial resolution of a zonal wavefront sensor by using a sequence of laterally shifted binary grating array patterns.

The grating arrays were programmably configured using a fast response FLCSM to generate a camera specific focal spot array that facilitates capturing all the focal spots arrays for the complete sequence without being effected by the typical frame rate of the digital camera.

24 Bit-planes of an FLCSLM

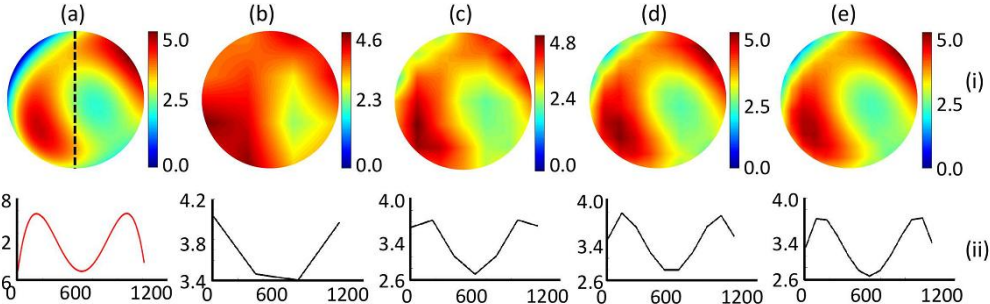


Translated grating array pattern



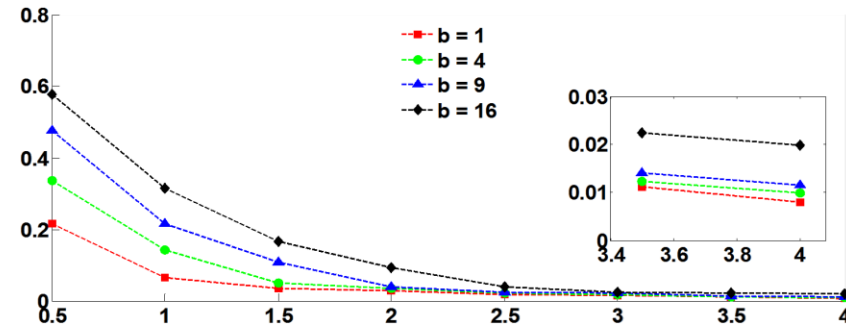
Binary grating array and its corresponding focal spots for bit-planes = 4, 9 and 16.

Experimental setup



Experimental results

B. Pathak and B. R. Boruah, *Optics Letters*, Vol. 41(23), 2016.



Numerical simulations