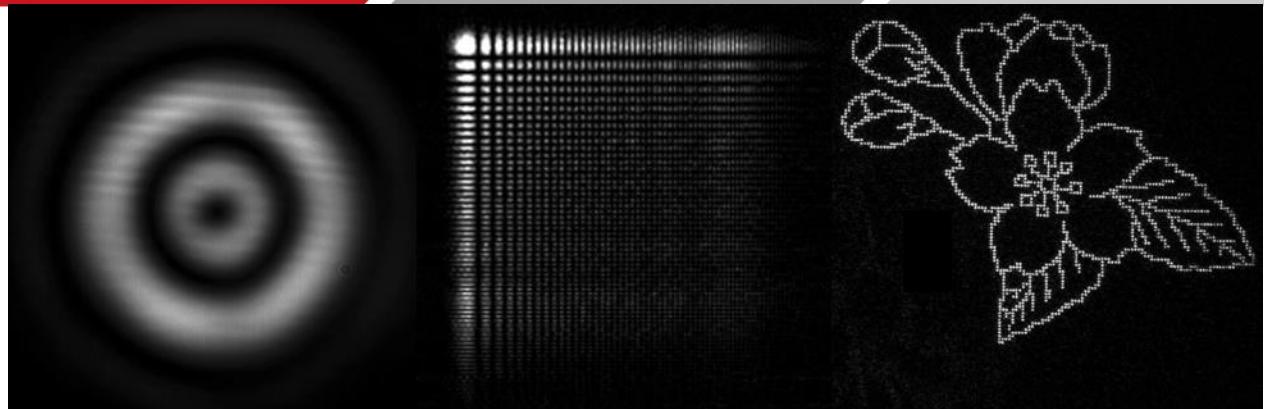
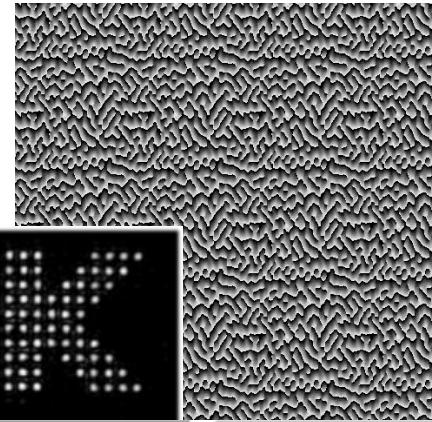


LCOS - Spatial Light Modulators

Optical Setup Examples



Thomas Niedereichholz

Optical Setup examples

Example optical system setups using the LCOS-SLM are shown in the figure 14 and 15. Example 1 is an optical system using a half-mirror. Example 2 shows an oblique-incidence optical system. One merit of the setup in Example 2, compared to the setup in Example 1, is that the amount of light loss due to the half-mirror is reduced.

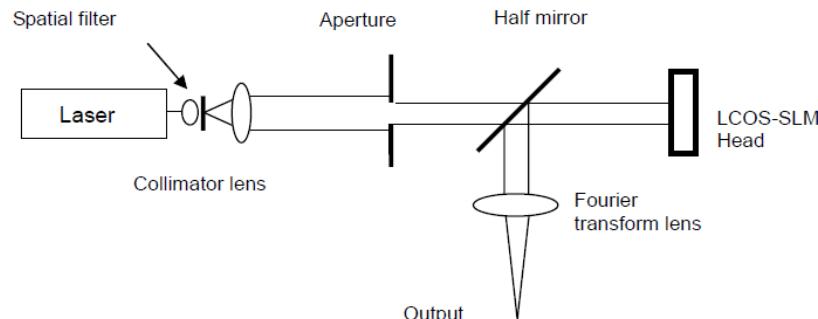


Fig.14 Example1

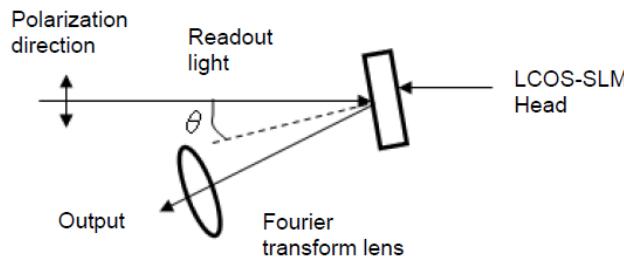


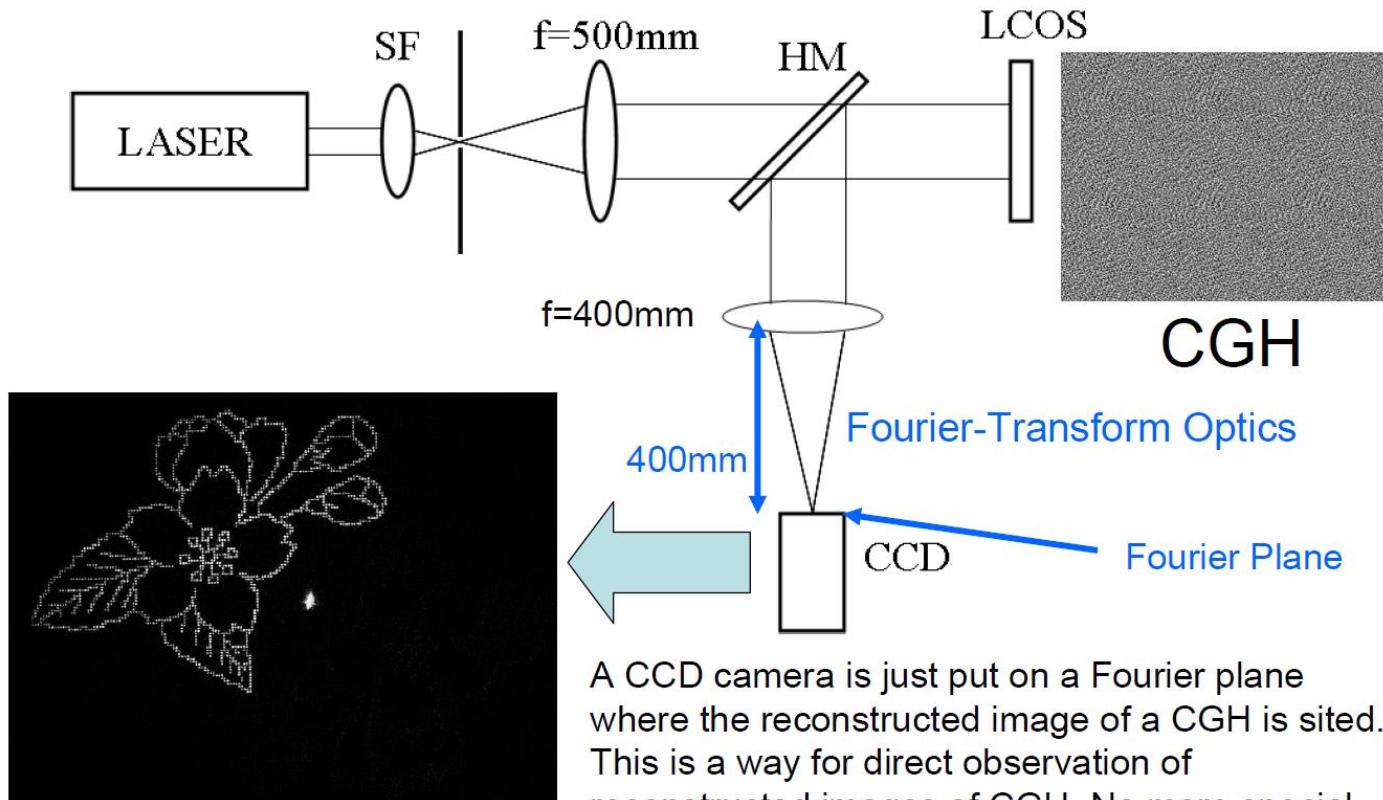
Fig.15 Example2

Advice: In the oblique-incidence optical system in Example 2, use an incident angle θ of 5° or less.

Advice: In the oblique-incidence optical system in Example 2, the incident light should be horizontally polarized*.

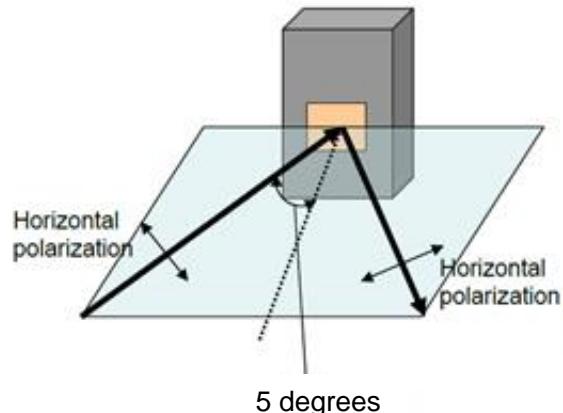
* Horizontally polarized means a polarization direction parallel to the plane including the incident light and the reflected light.

Optical Setup examples



A CCD camera is just put on a Fourier plane where the reconstructed image of a CGH is sited. This is a way for direct observation of reconstructed images of CGH. No more special arrangements are not applied. The CCD camera used is an industrial one and is not a special one.

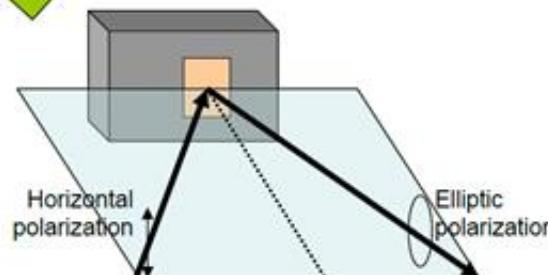
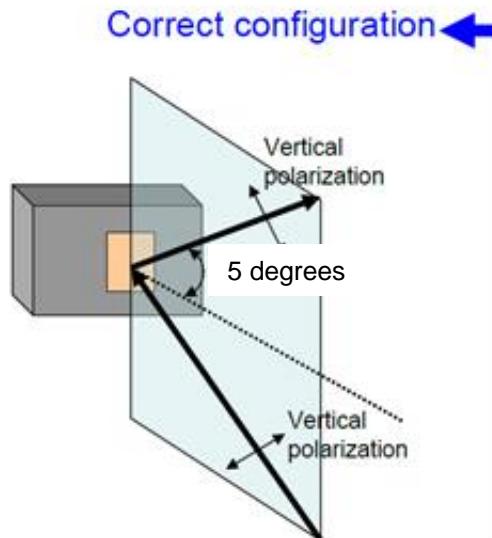
Optical Setup examples



Oblique readout optical setup

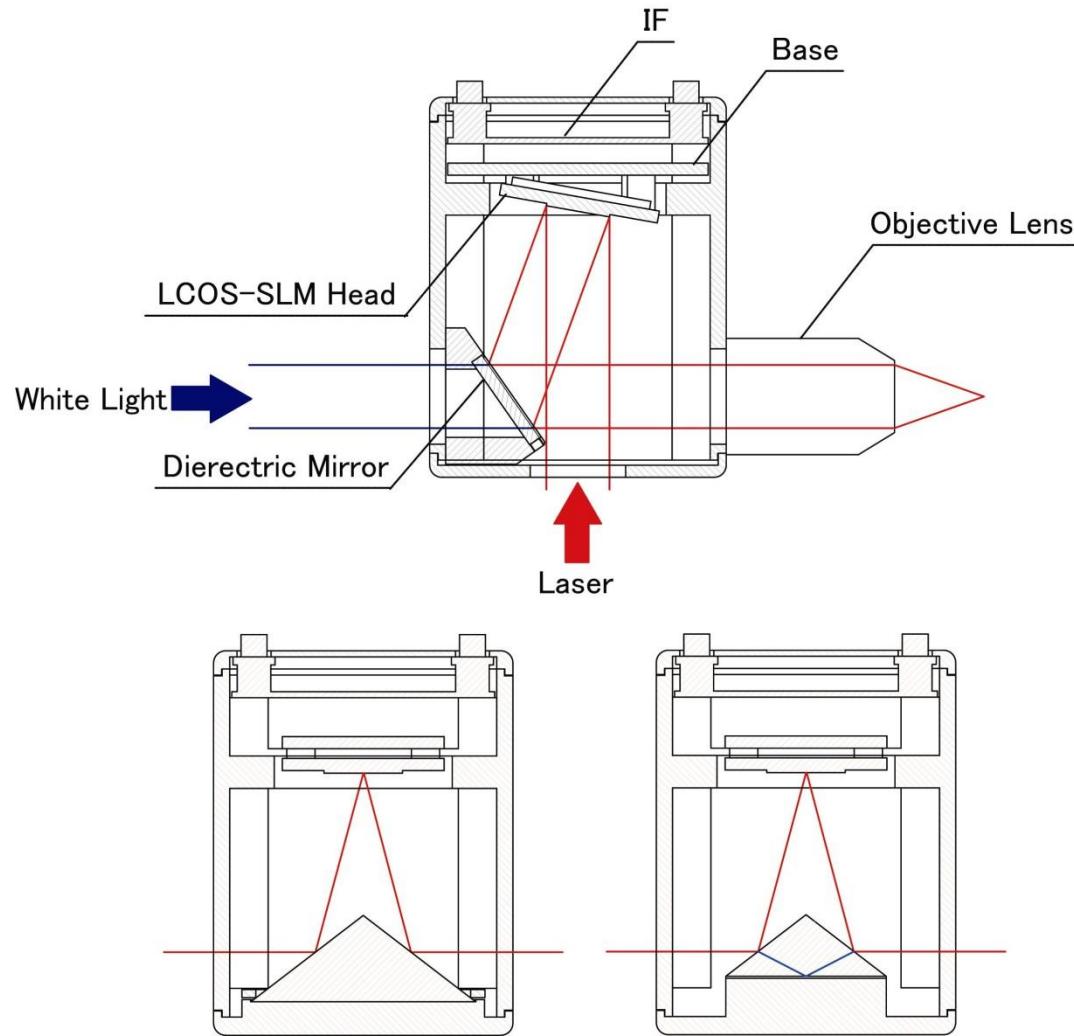
→ wrong configuration

The polarization of the laser beam
should be rotated 90 degrees and the
horizontal polarization should be used.

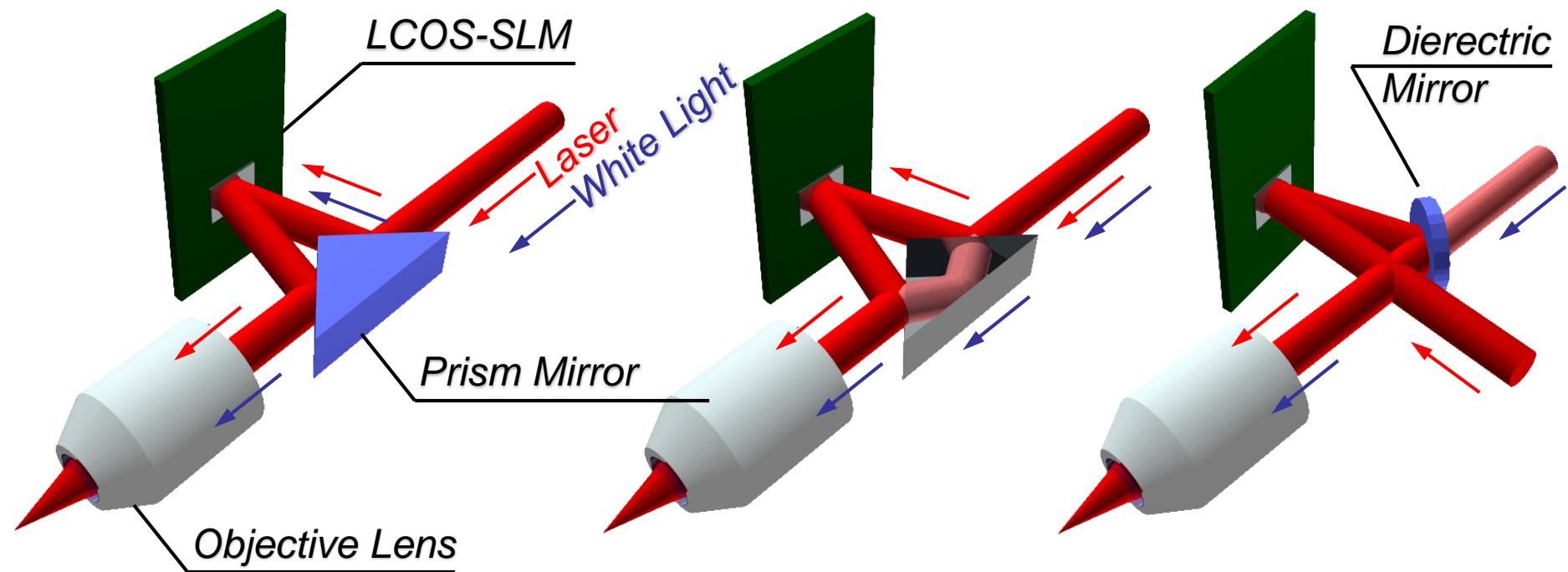


The linear polarization of the incident
beam is changed to the elliptic one.

Optical Setup examples



Optical Setup examples



(1) 0 degree Type1

(2) 0 degree Type2

(3) 90 degree



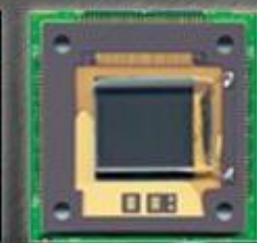
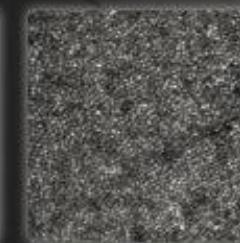
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