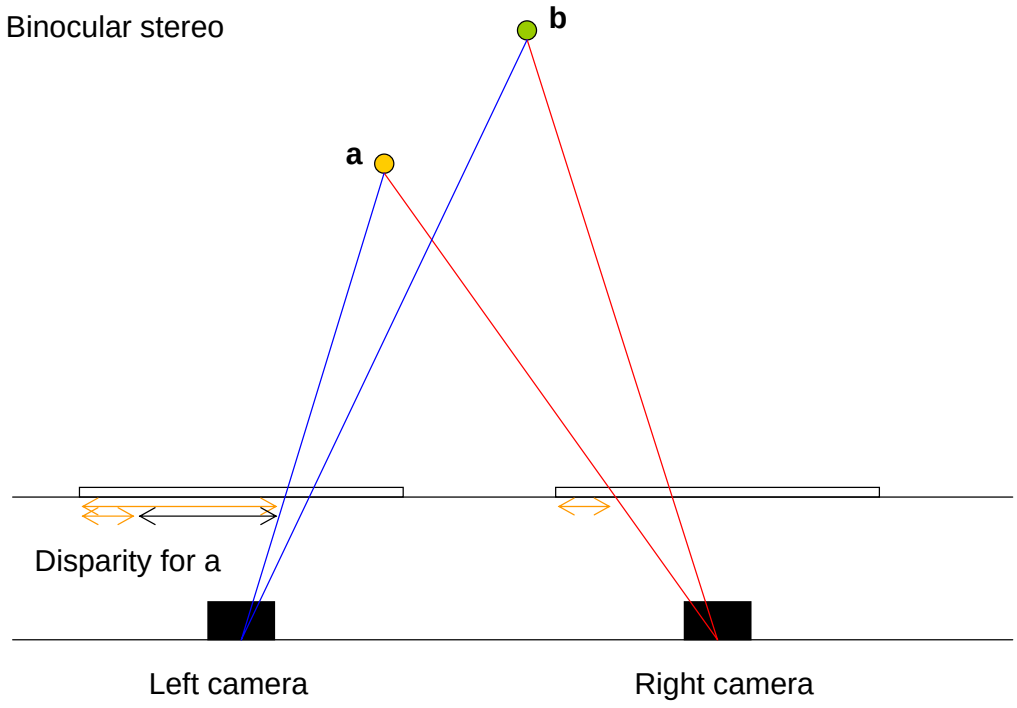
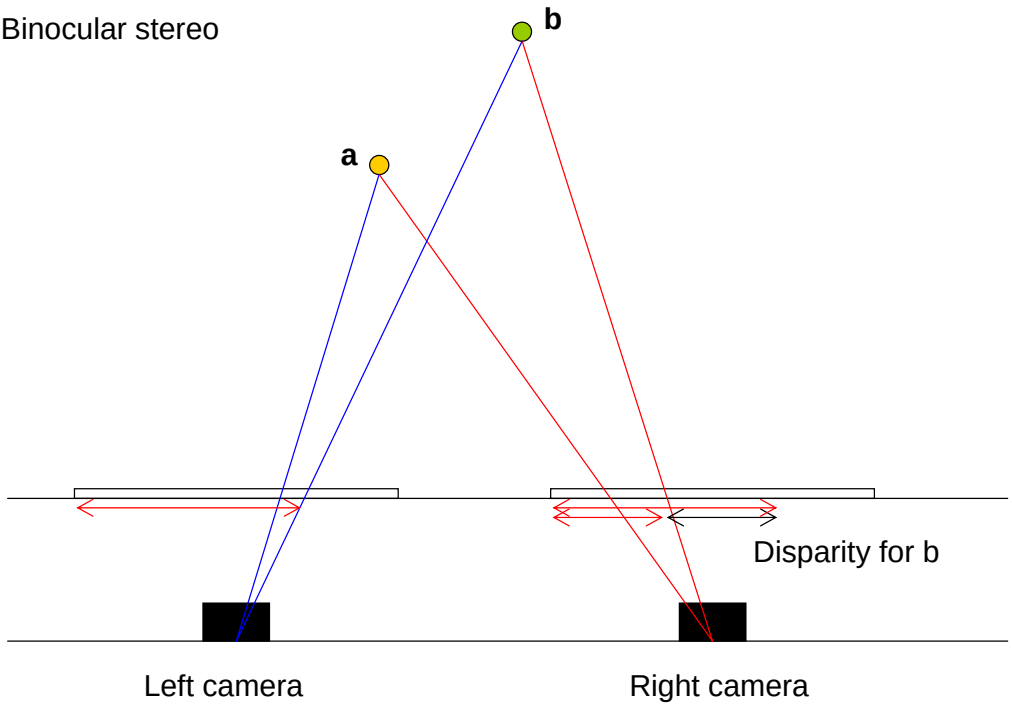
Shape recovery methods

This set of notes contains drawing for the following methods:

- Binocular stereo
- Structured lighting
- Shape from contours



Binocular stereo

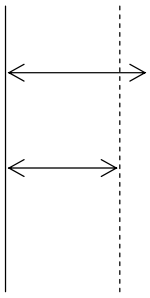


Binocular stereo

Compare

Disparity for a

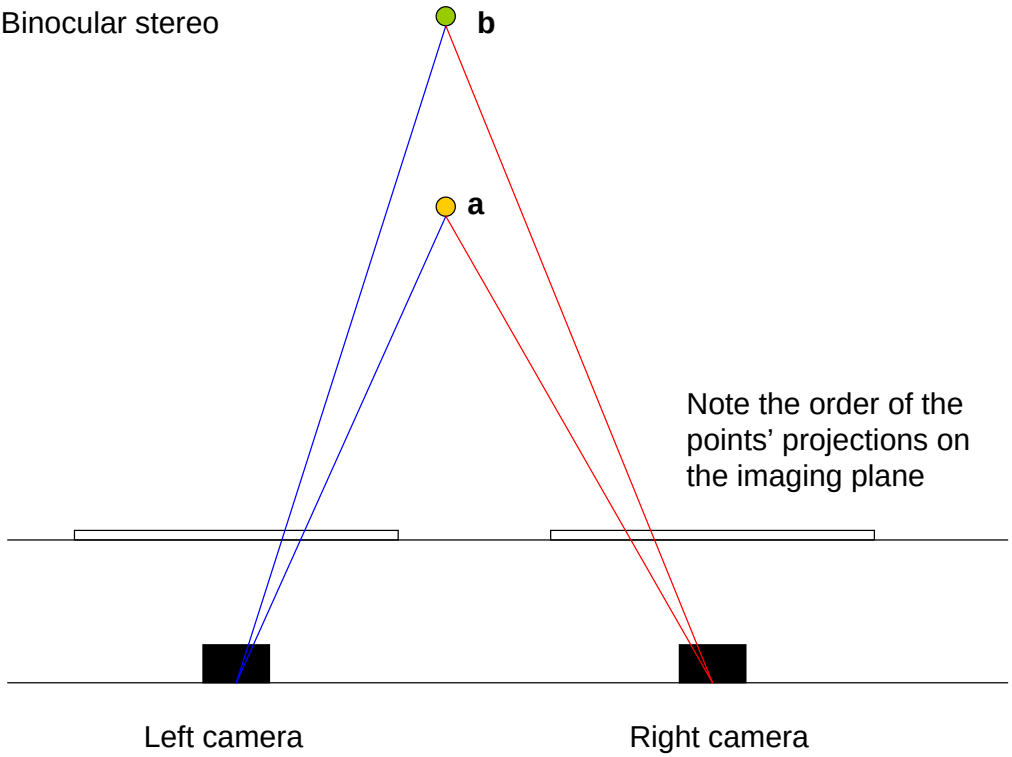
Disparity for b



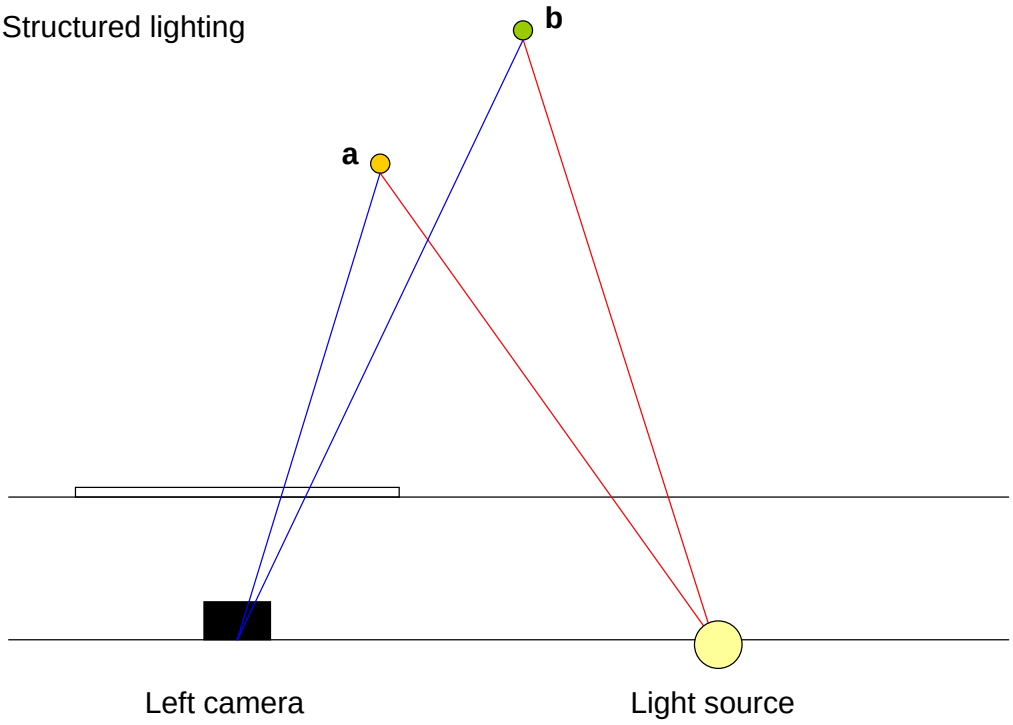
Disparity for a > Disparity for b

Means **a** is closer than **b**

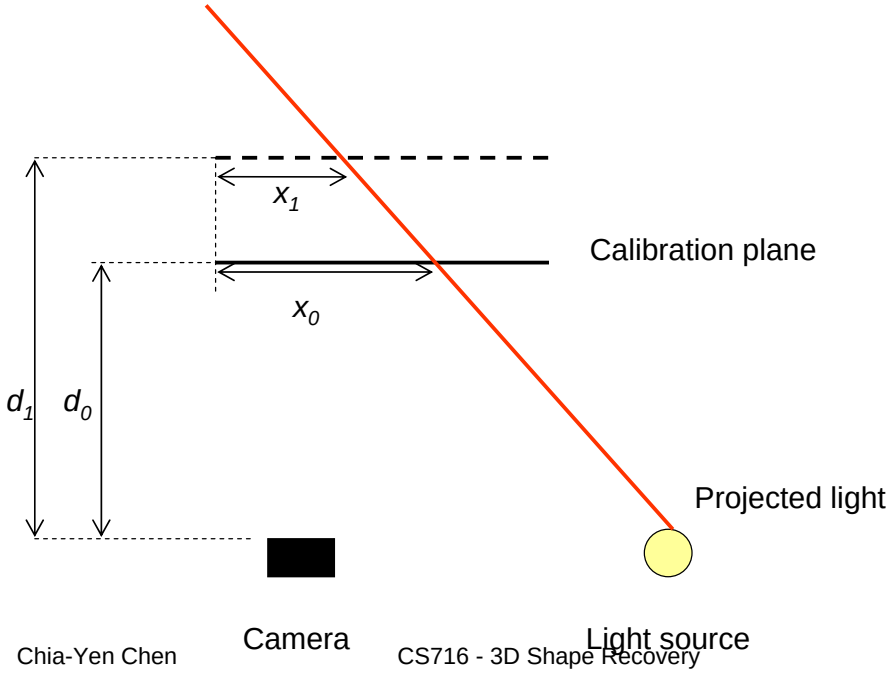
Binocular stereo



Structured lighting

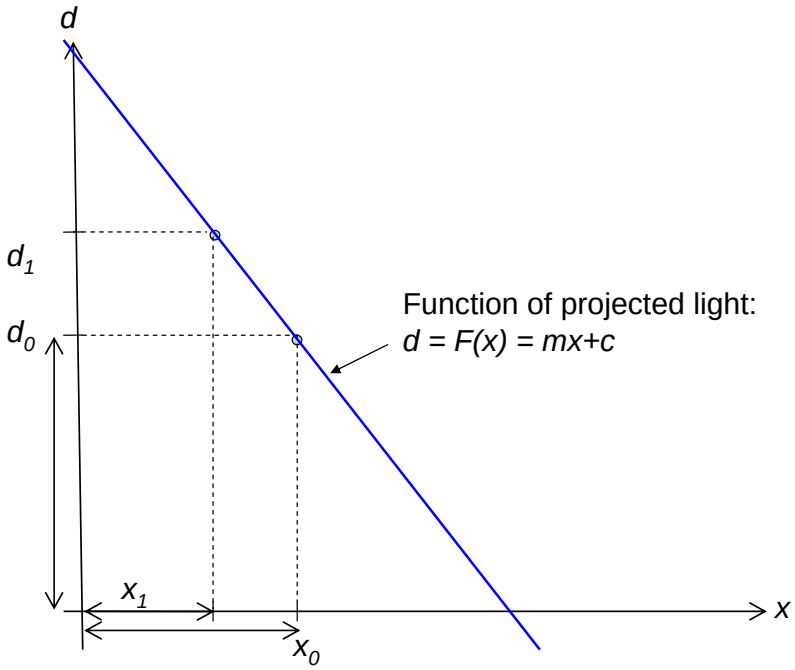


Structured lighting



Graph of projected light

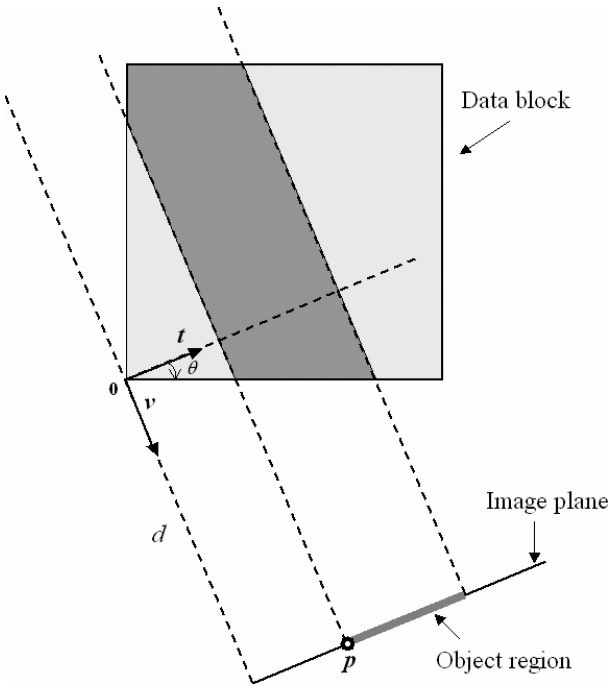
Structured lighting

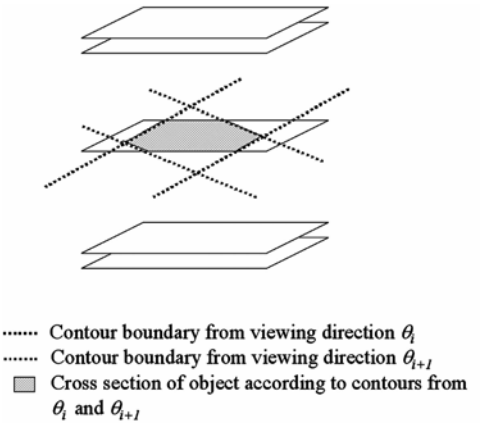


Shape from contours

Segmentation and extraction of contours

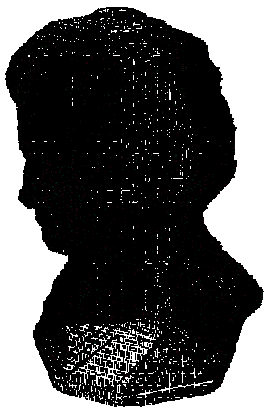
Shape from contours

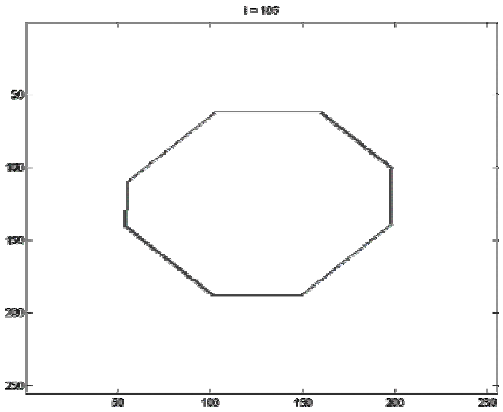




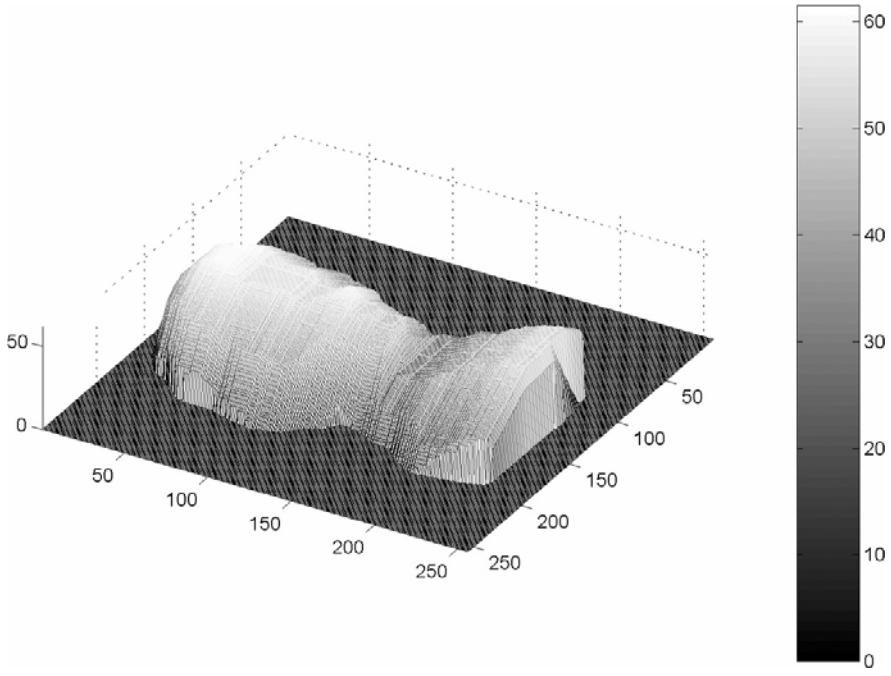
Shape from contours

A preliminary 3D model (visual hull) and a horizontal cross section of the model





Shape from contours



Shape from contours

Consider this horizontal cross section of an object. Can this shape be accurately recovered using shape from contours?

Assume: object is placed on a turntable and rotated about the vertical axis