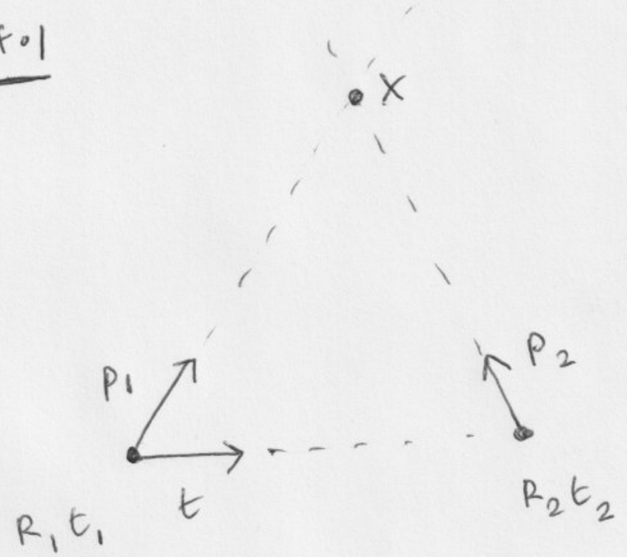
14.1



(for correct correspondence)

3 vectors p_1, p_2, t lie in the same plane

scalar triple product $= p_2^T (t \times p_1) = 0$ ①

"Epipolar constraint"

we can write eqn ① in terms of $R_1, t_1, R_2, t_2, u_1, u_2$

$\therefore$ we have 1 eqn in the unknown camera params.

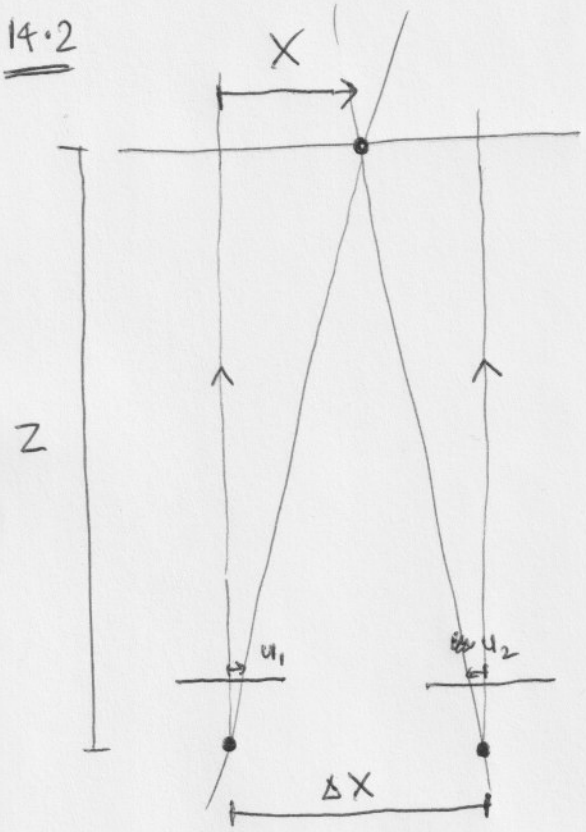
[illegible] $t = t_2 - t_1$

[illegible]

$p_1 \sim R_1^T K_1^{-1} u_1$ → solve set of non linear eqns for R_1, t_1, R_2, t_2

$p_2 \sim R_2^T K_2^{-1} u_2$

14.2



$$u_1 = f\frac{X}{Z}$$

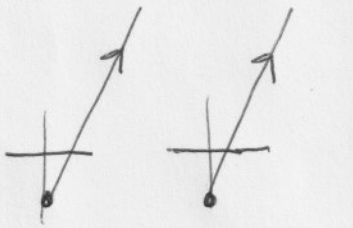
$$u_2 = f\frac{X-\Delta X}{Z}$$

$$\underbrace{u_1 - u_2}_{\text{"disparity"}} = f\frac{\Delta X}{Z} \propto \frac{1}{Z}$$

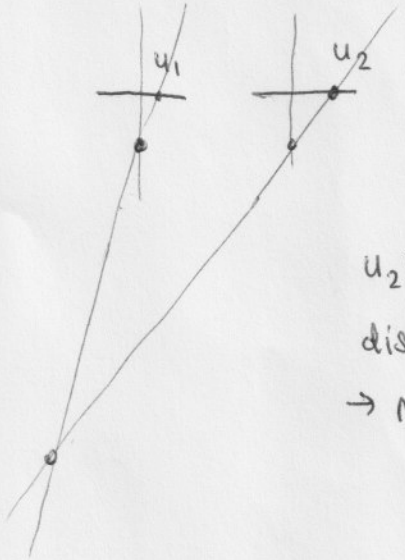
(← proportional to)

$$Z = \frac{f\,\Delta X}{u_1 - u_2}$$

$X \uparrow \infty$



X at ∞,
$u_1 = u_2$
disparity
$= 0$



$u_2 > u_1$
disparity −ve
→ not possible.