

Formation et Analyse d'Images

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Two lines make a point, two points make a line

Given two points $P = \begin{pmatrix} x \\ y \\ 1 \end{pmatrix}$ and $Q = \begin{pmatrix} u \\ v \\ 1 \end{pmatrix}$

and two lines $L = (a \ b \ c)$ and $M = (d \ e \ f)$

1) Two lines make a point. $P = L \times M$

a) Use the cross product to derive the formula for the coefficients for the point P at the intersection of two lines L, M

b) Derive the formula for the same coefficients using the determinant.

2) Two points make a line $L^T = P \times Q$

a) Use the cross product to derive the formula for the coefficients for the line L^T passing through two points P, Q

b) Derive the formula for the same coefficients using the determinant. .