

Vertical Photograph

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Nadir Point (n')

Principal Point (P.P.):

Principal Distance:

Principal lines:

x-Axis of the photograph

y-Axis of the photograph:

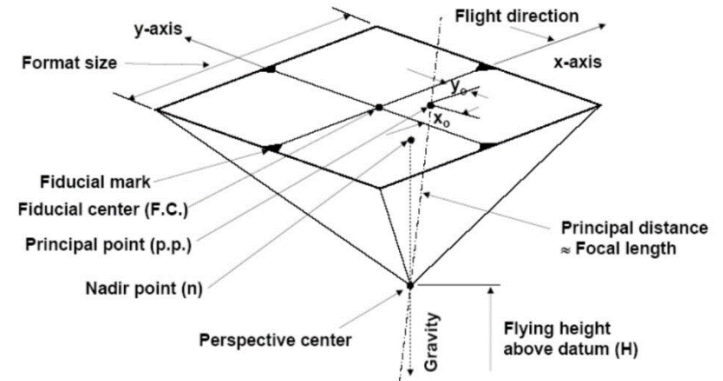
Principal Distance in x-Direction (x_0):

Principal Distance in y-Direction (y_0):

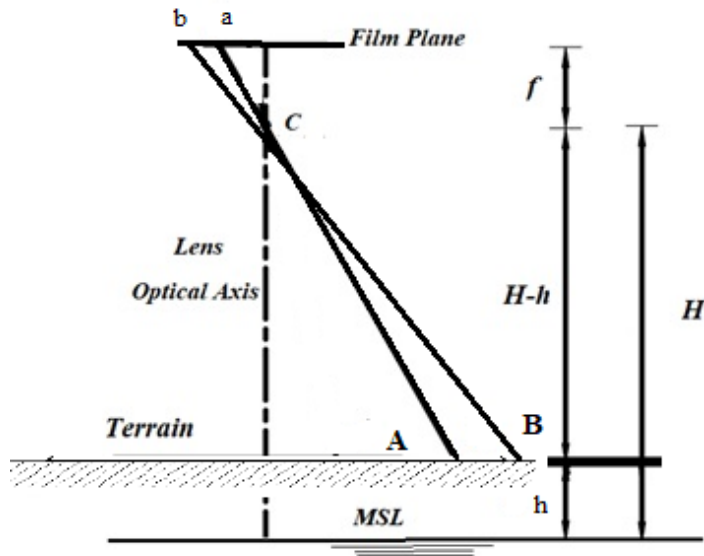
Fiducial Center F.C

Flying Height (H):

Flight line:



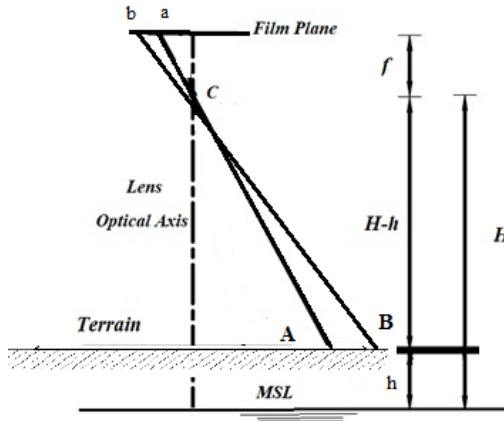
Scale of the Photograph



- Scale = $S = ab/AB = f/H' = f/(H-h)$

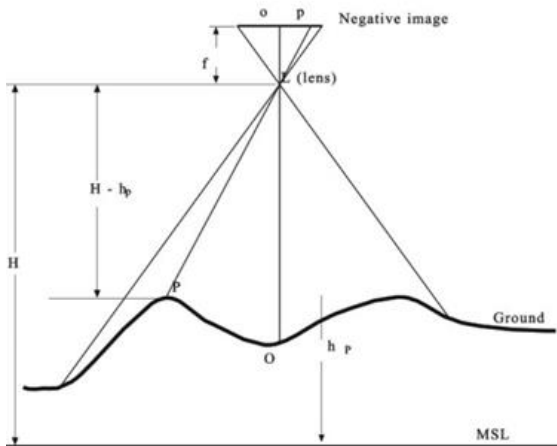
Average Scale = $S_{av.} = f/H' = f/(H-h_{av.})$

Calculations of Ground Coordinates of a Point



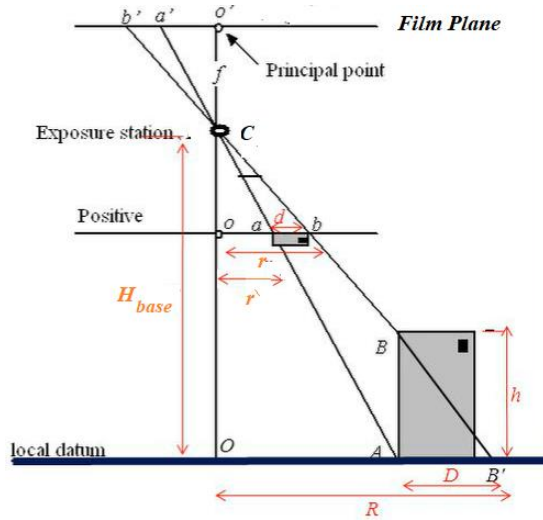
$$X_P = x_p \cdot (H-h_p) / f$$

$$Y_P = y_p \cdot (H-h_p) / f$$



$$D_{AB} = \sqrt{(X_A - X_B)^2 + (Y_A - Y_B)^2}$$

Relief Displacement



$$d = \frac{rh_A}{H_{base}}$$

$$h = \frac{d H_{base}}{r}$$

