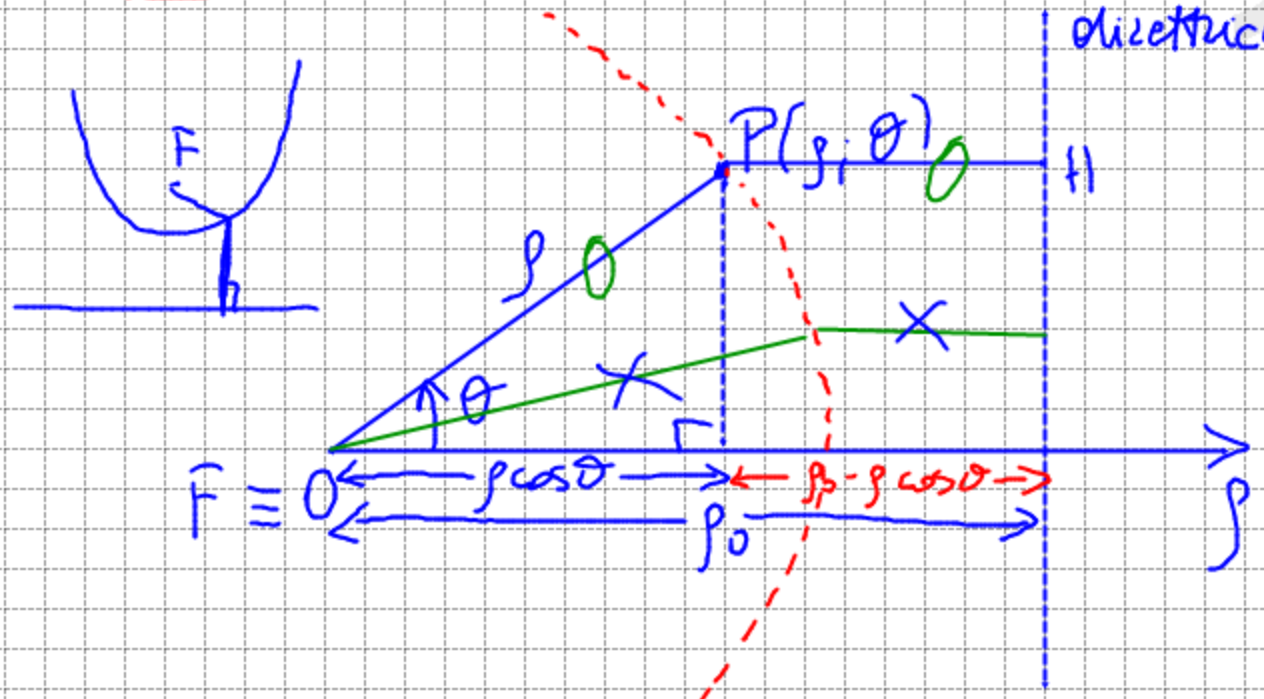
# EQUAZIONE PARABOLA IN COORDINATE POLARI




F = fuoco della parabola

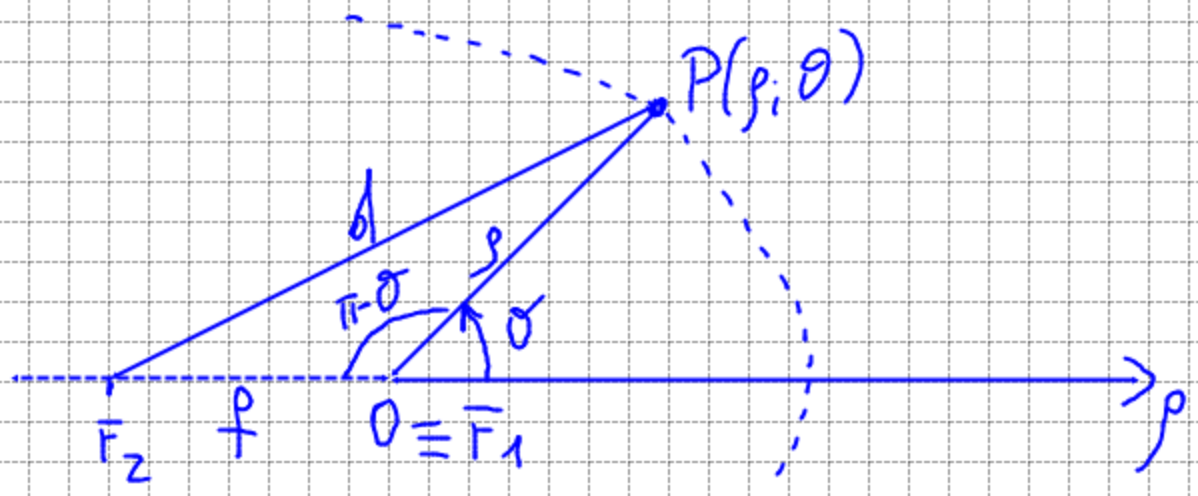
$F \equiv O$

$PH = PF$ = distanza di P dalla direttrice.

$\rho = \rho_0 - \rho\cos\theta$ $\qquad \rho + \rho\cos\theta = \rho_0$ $\qquad \rho(1+\cos\theta) = \rho_0$

$$\boxed{\rho = \frac{\rho_0}{1+\cos\theta}}$$

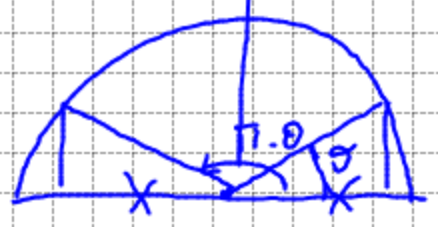
# EQUAZIONE ELLISSE IN COORDINATE POLARI




$\overline{F_1F_2} = f$

$d + \rho = S$ (costante)

$d^2 = f^2 + \rho^2 - 2f\rho\cos(\pi-\theta)$




$\cos(\pi-\theta) = -\cos\theta$

$d^2 = f^2 + \rho^2 + 2f\rho\cos\theta$

$d = S - \rho \qquad d^2 = S^2 + \rho^2 - 2S\rho$

$S^2 + \rho^2 - 2S\rho = f^2 + \rho^2 + 2f\rho\cos\theta$

$2\rho(f\cos\theta + S) = S^2 - f^2 \qquad \rho = \dfrac{(S^2-f^2)/2}{f\cos\theta + S}$

$\rho = \dfrac{(S^2-f^2)/2}{S + f\cos\theta} \qquad \rho = \dfrac{(S^2-f^2)/2f}{\left(\frac{S}{f} + \cos\theta\right)}$

$$\rho = \frac{(S^2-f^2)/2f}{\frac{S}{f} + \cos\theta}$$

EQUAZIONE ELLISSE IN COORDINATE POLARI