

30. The angular location of the  $m$ th bright fringe is given by  $d \sin \theta = m\lambda$ , so the linear separation between two adjacent fringes is

$$\Delta y = \Delta(D \sin \theta) = \Delta \left( \frac{D_m \lambda}{d} \right) = \frac{D \lambda}{d} \Delta m = \frac{D \lambda}{d} .$$