

Transformaciones para sistemas incoherentes

$$d(\vec{x}) = d_{obj}(\vec{x}) \otimes s(\vec{x}),$$

$$D(\vec{u}) = D_{obj}(\vec{u})S(\vec{u}).$$

Transformaciones para sistemas coherentes

$$u(\vec{x}) = u_{obj}(\vec{x}) \otimes h(\vec{x}),$$

$$U(\vec{u}) = U_{obj}(\vec{u})H(\vec{u}).$$

 Sistemas incoherentes

$$\begin{array}{c} \text{Función de punto extendido (PSF)} \\ s(\vec{x}) \\ \text{Función de transferencia óptica (OTF)} \\ S(\vec{u}) \end{array}$$

$$\begin{array}{c} \text{Función de respuesta al impulso} \\ h(\vec{x}) \\ \text{Función de transferencia de amplitud (ATF)} \\ H(\vec{u}) \end{array}$$

 Sistemas coherentes

Relaciones

$$s(\vec{x}) = |h(\vec{x})|^2$$

$$S(\vec{u}) = \mathcal{F}\{s(\vec{x})\}$$

$$S(\vec{u}) = H(\vec{u}) \star H(\vec{u})$$

$$D(\vec{u}) = \mathcal{F}\{d(\vec{x})\}$$

$$U(\vec{u}) = \mathcal{F}\{u(\vec{x})\} = A(\vec{u})e^{i\phi(\vec{u})}$$