



The Abdus Salam  
**International Centre  
for Theoretical Physics**

# Interferometry

Preparatory School on Optics: Quantum Photonics and Information

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# Interference

$$I = I_1 + I_2 + 2\sqrt{I_1 I_2} \cos \delta$$

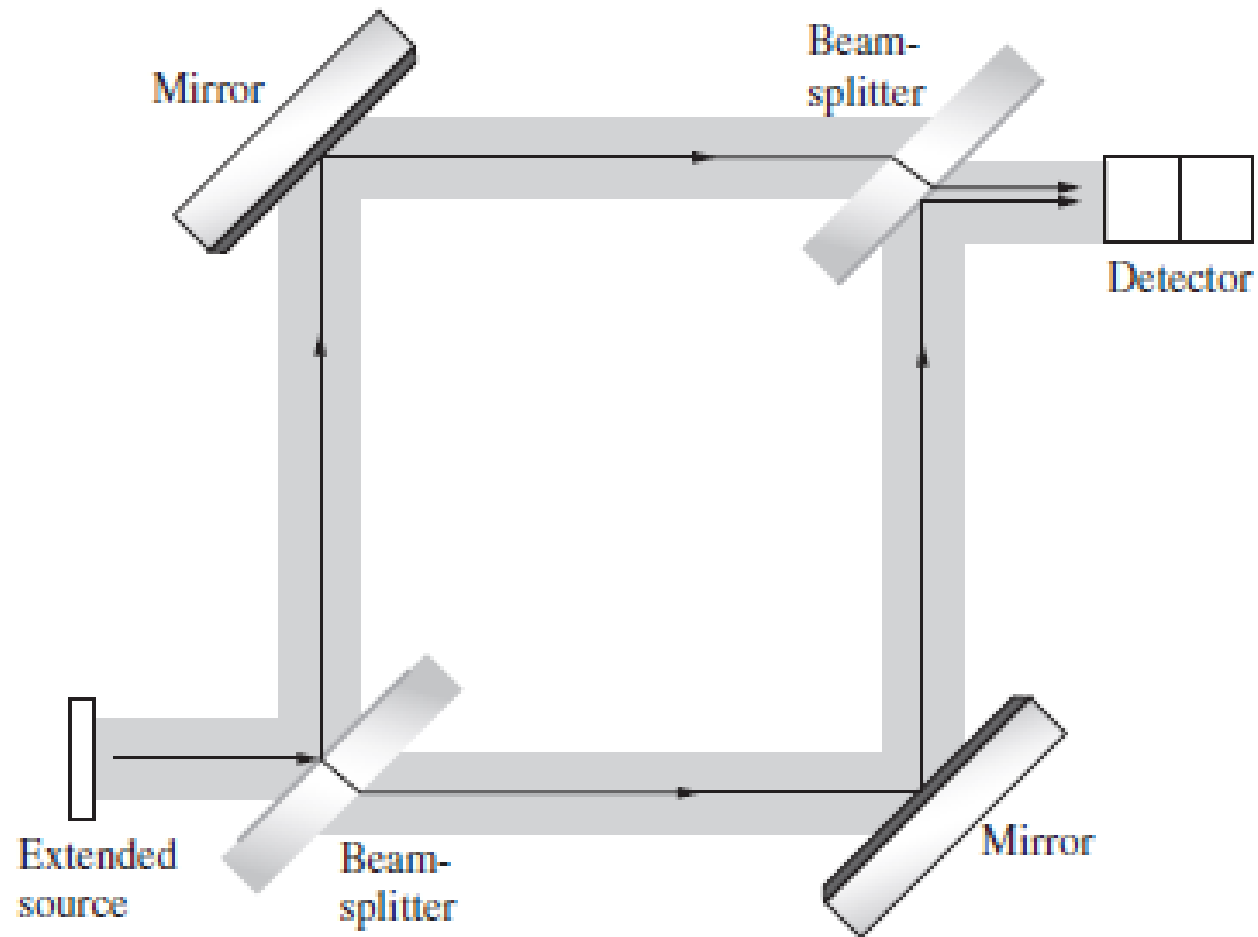
$$I_{\max} = I_1 + I_2 + 2\sqrt{I_1 I_2}$$

$$\delta = 0, \pm 2\pi, \pm 4\pi, \dots$$

$$I_{\min} = I_1 + I_2 - 2\sqrt{I_1 I_2}$$

$$\delta = \pm \pi, \pm 3\pi, \pm 5\pi, \dots,$$

# The Mach-Zehnder Interferometer



Applications:  
Plasma analysis and thermal lens spectroscopy

