

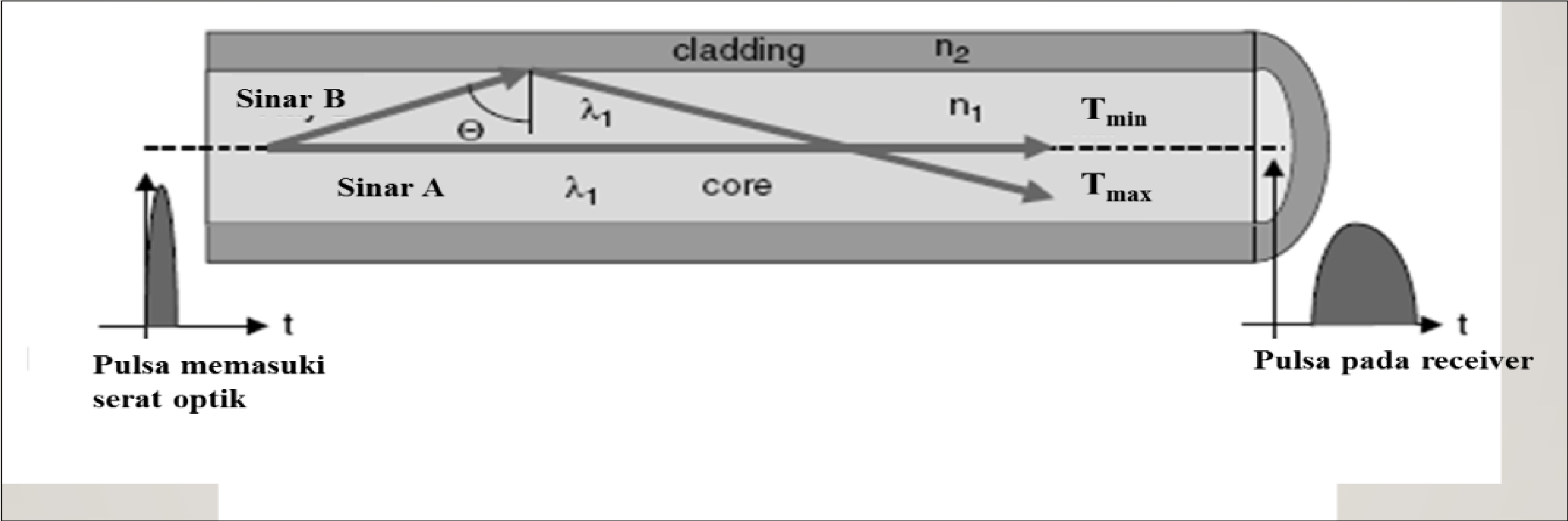
SISTEM KOMUNIKASI OPTIK

- **MATERI 5**
- **DISPERSI ANTAR MODUS**

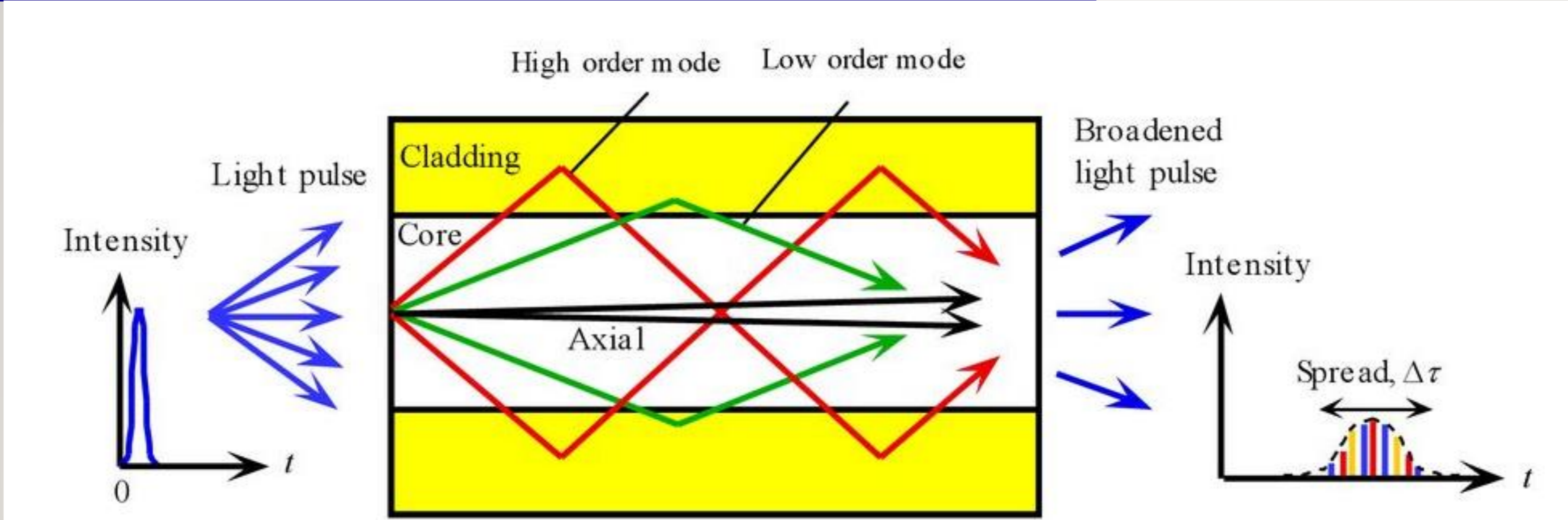
- D3 Teknologi Telekomunikasi – Fakultas Ilmu Terapan



DISPERSI ANTAR MODUS



MULTIMODE STEP INDEKS



Serat Optik Multimode Step Indeks :

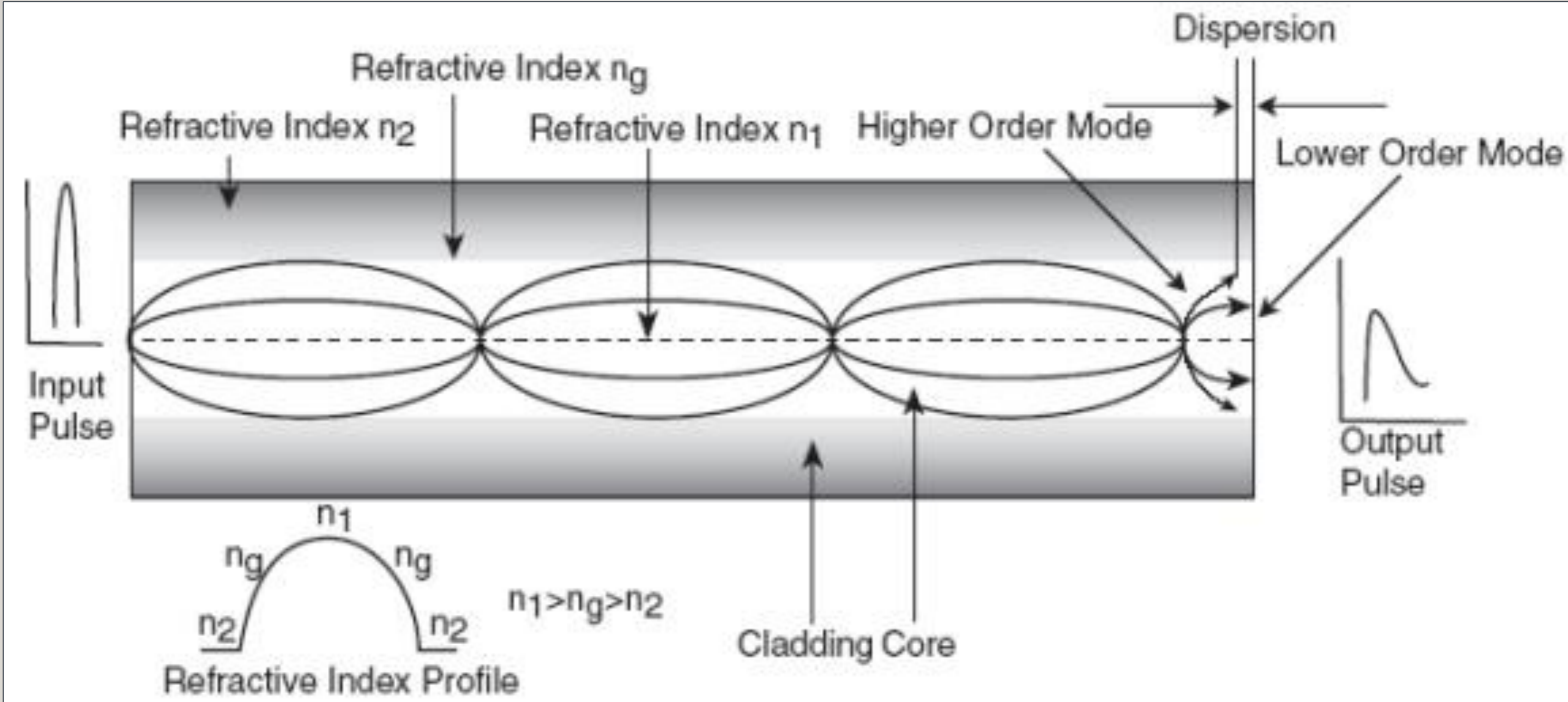
$$T_{maks} = L \cdot \frac{n_1}{c \cdot \cos \theta_c} = \frac{L \cdot n_1^2}{c \cdot n_2}$$

$$T_{min} = L \cdot \frac{n_1}{c}$$

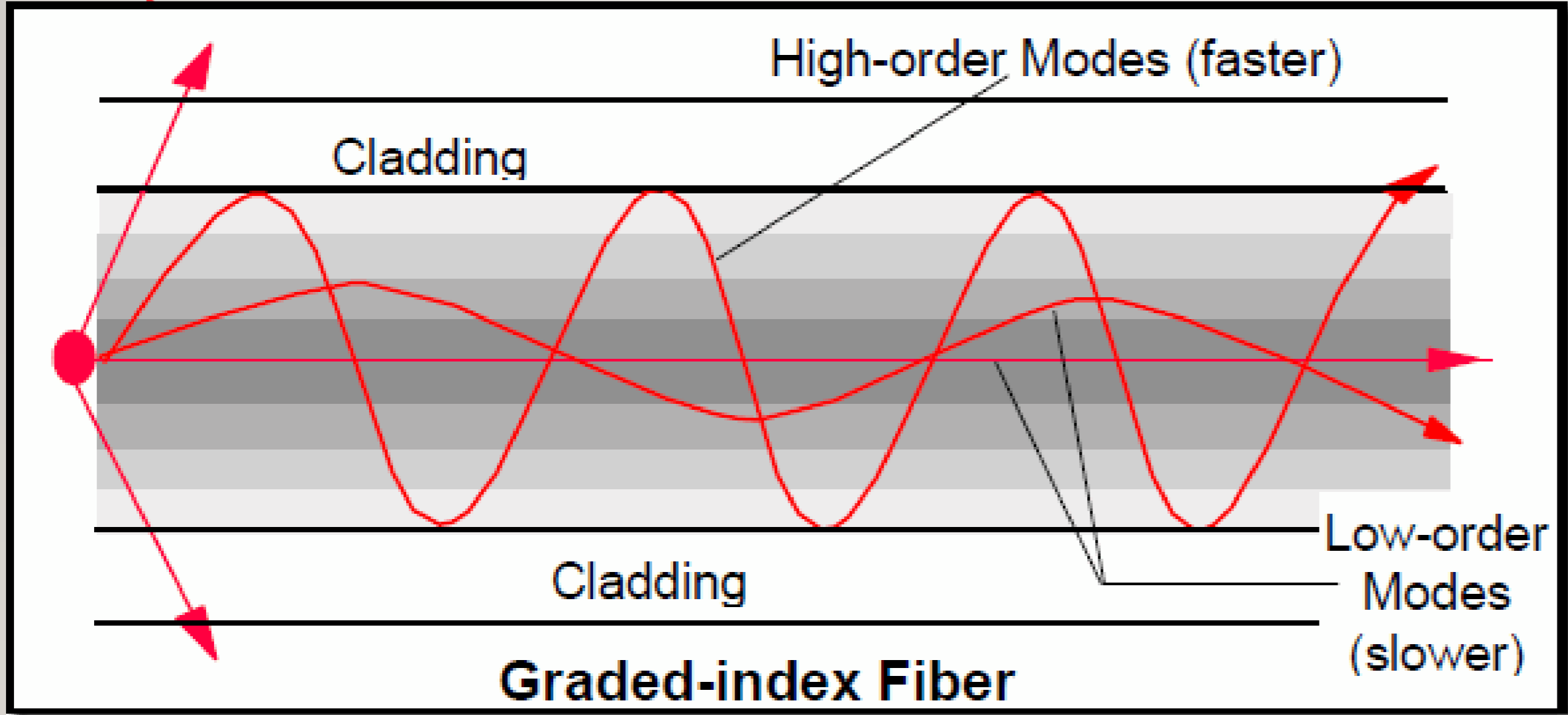
Pelebaran Pulsa Persatuan Panjang

$$\sigma_{mod-si} = (T_{max} - T_{min}) / L = n_1 \cdot \Delta / c$$

MULTIMODE GRADDED INDEX



MULTIMODE GRADDED INDEKS



Dispersi Total Pada Serat Optik

$$\sigma_T = \sqrt{(\sigma_{im}^2 + \sigma_{am}^2)}$$

Parameter profil $\alpha \approx 2$ (Profil Parabola)

Pelebaran Pulsa Persatuan Panjang

$$\sigma_{mod-gi} = n_1 \Delta^2 / 8 \cdot c = (\Delta/8) \sigma_{mod-si}$$



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