

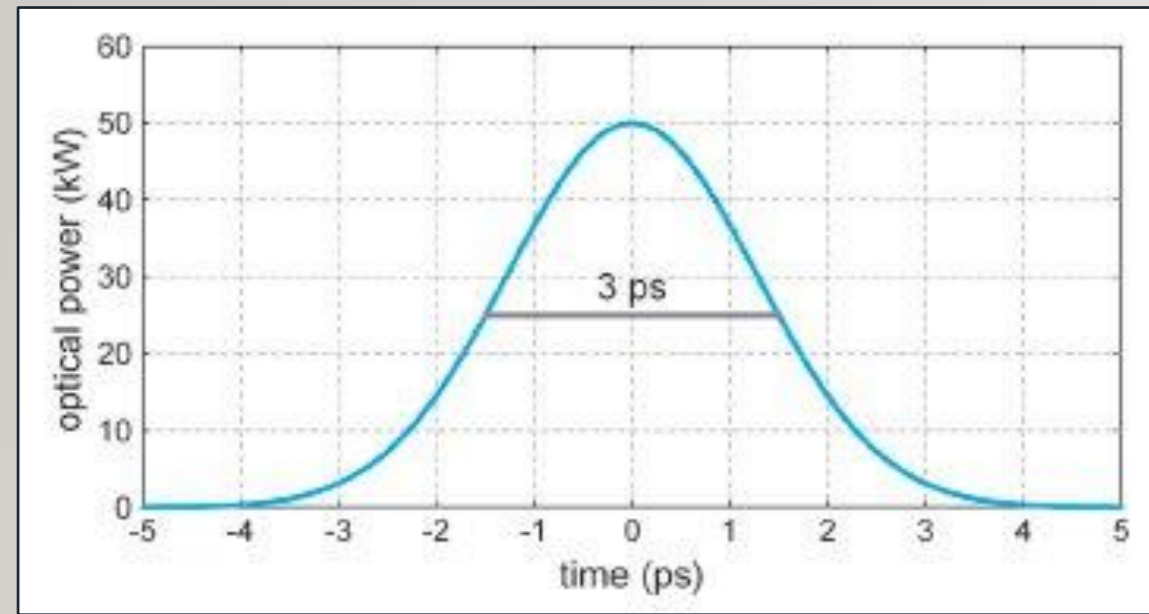
SISTEM KOMUNIKASI OPTIK

- **MATERI 5**
- **DISPERSI MODE POLARISASI**

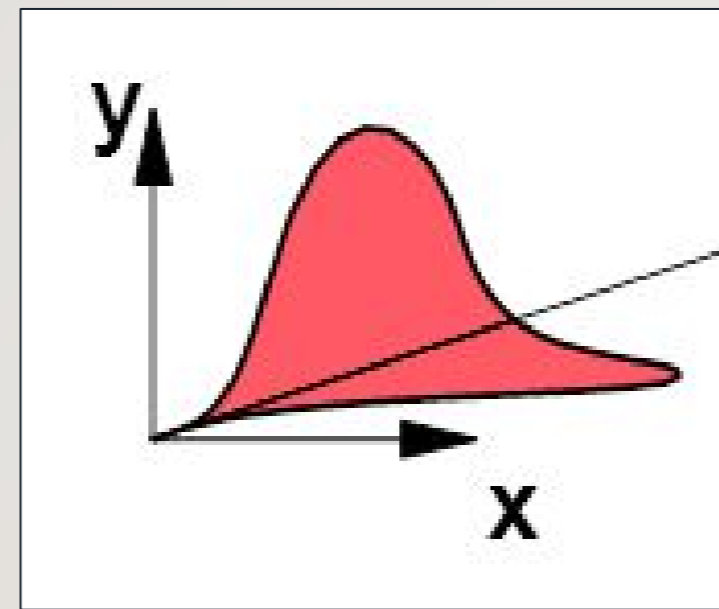
- D3 Teknologi Telekomunikasi – Fakultas Ilmu Terapan



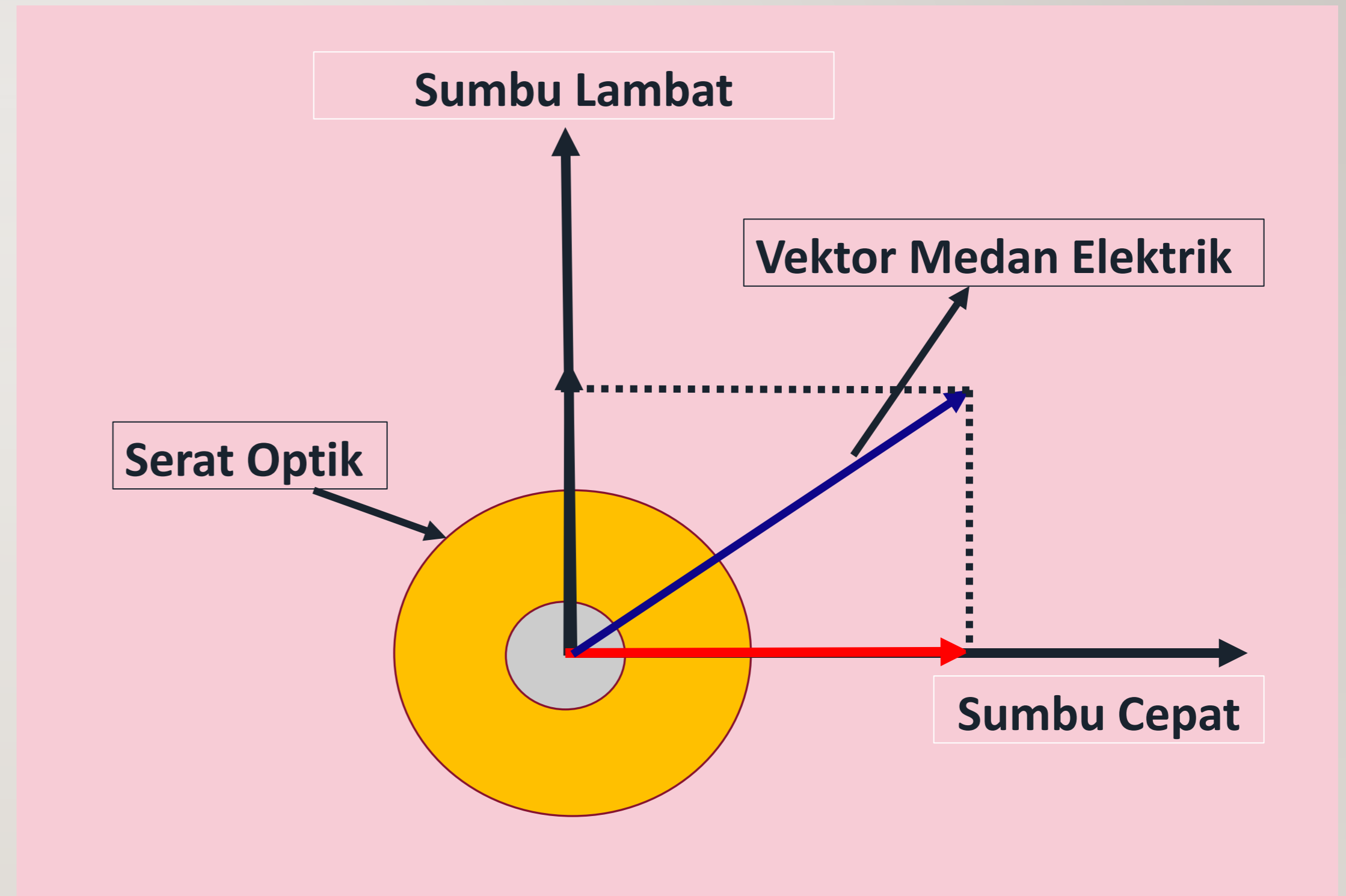
PULSA OPTIK



Gambar 1. Pulsa Optik

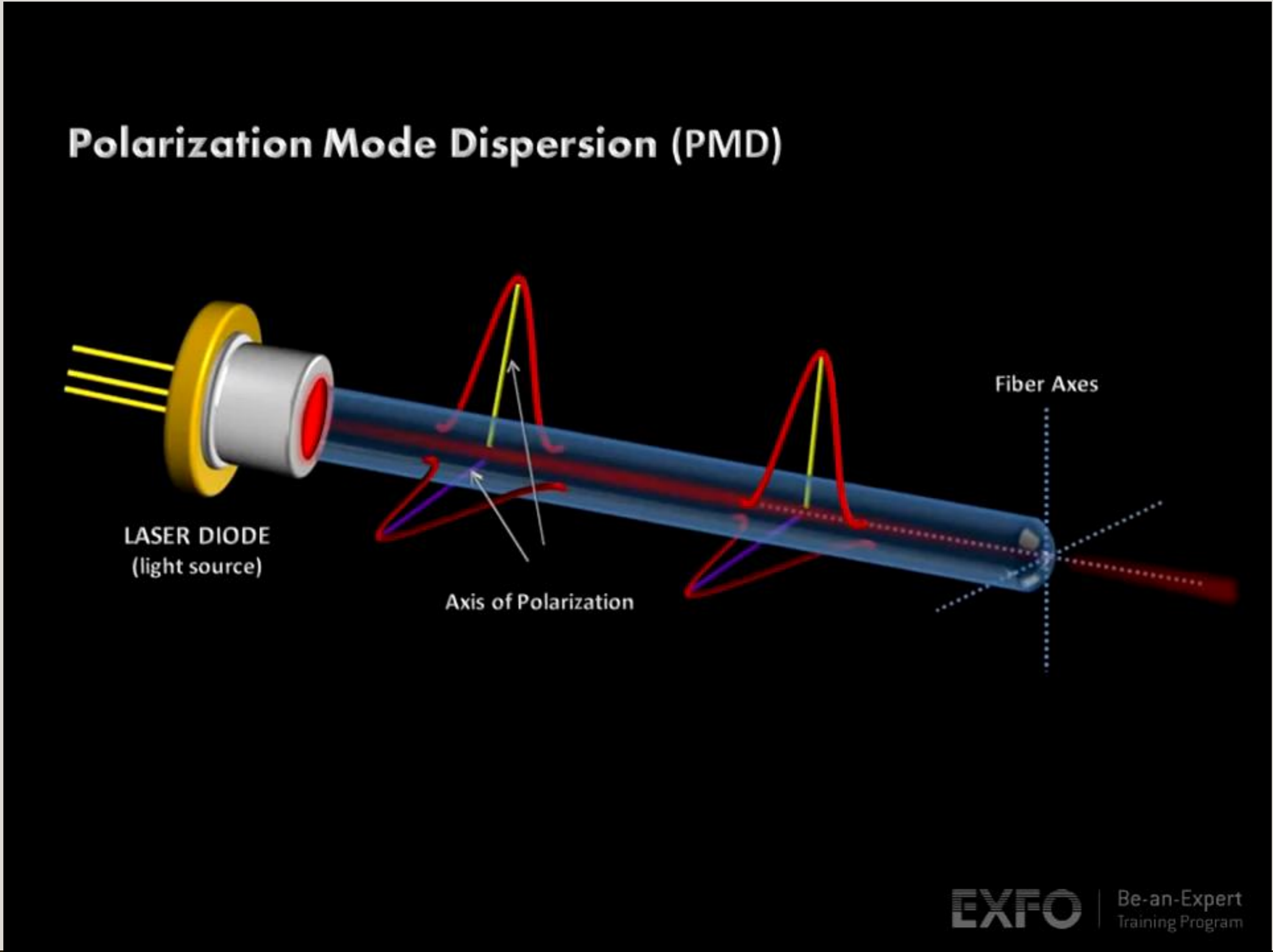


Gambar 2. Polarisasi Pada pulsa Tunggal



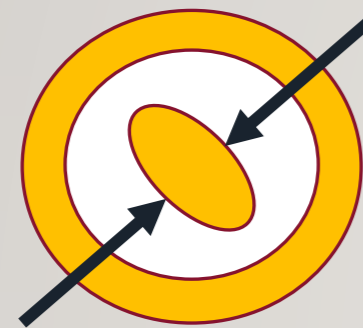
Gambar 3. Vektor Medan Elektrik

DISPERSI MODE POLARISASI

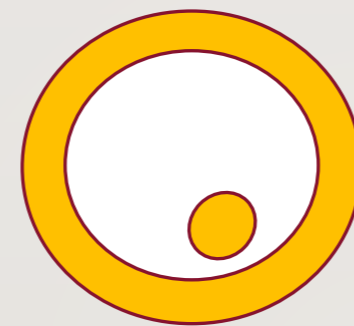


PENYEBAB DISPERSI MODE POLARISASI

1. Saat proses fabrikasi atau pembuatan serat yang kurang sempurna



Core Tertekan

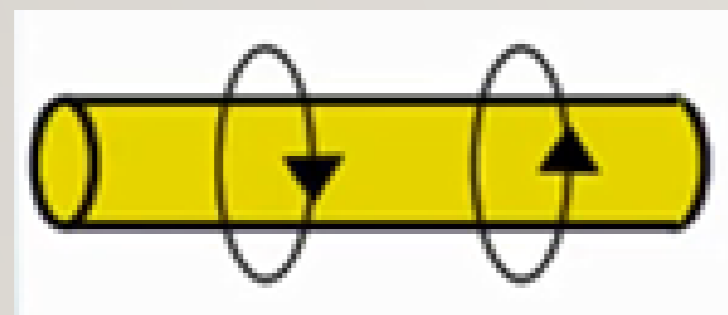


Cladding Eccentricity

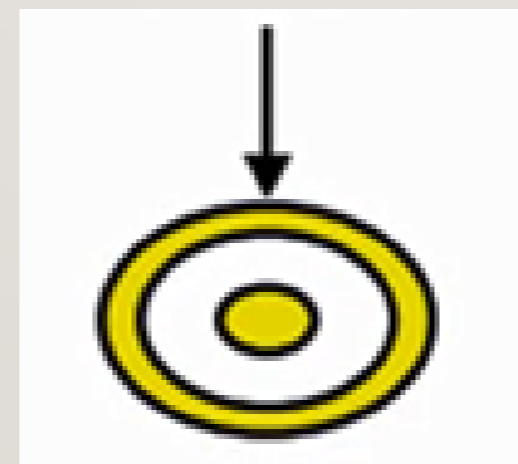


Elliptical Fiber Design

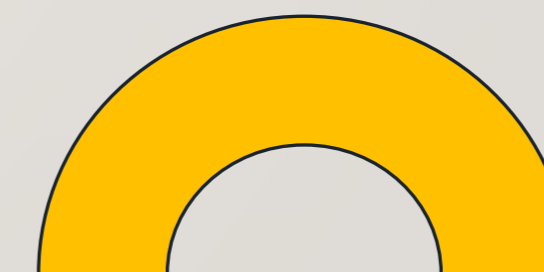
2. Mechanical Stress



Serat Memutar

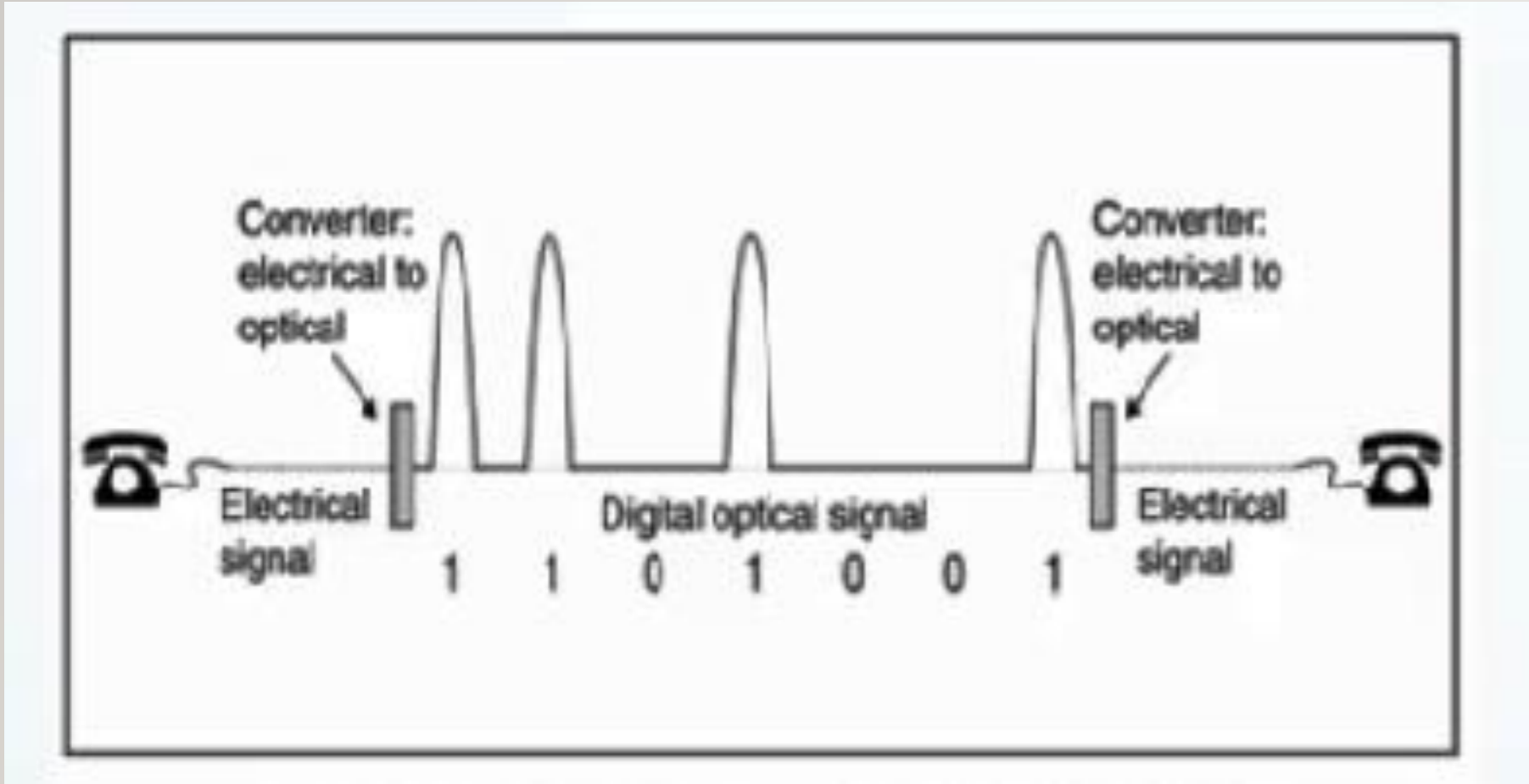


Serat Tertekan

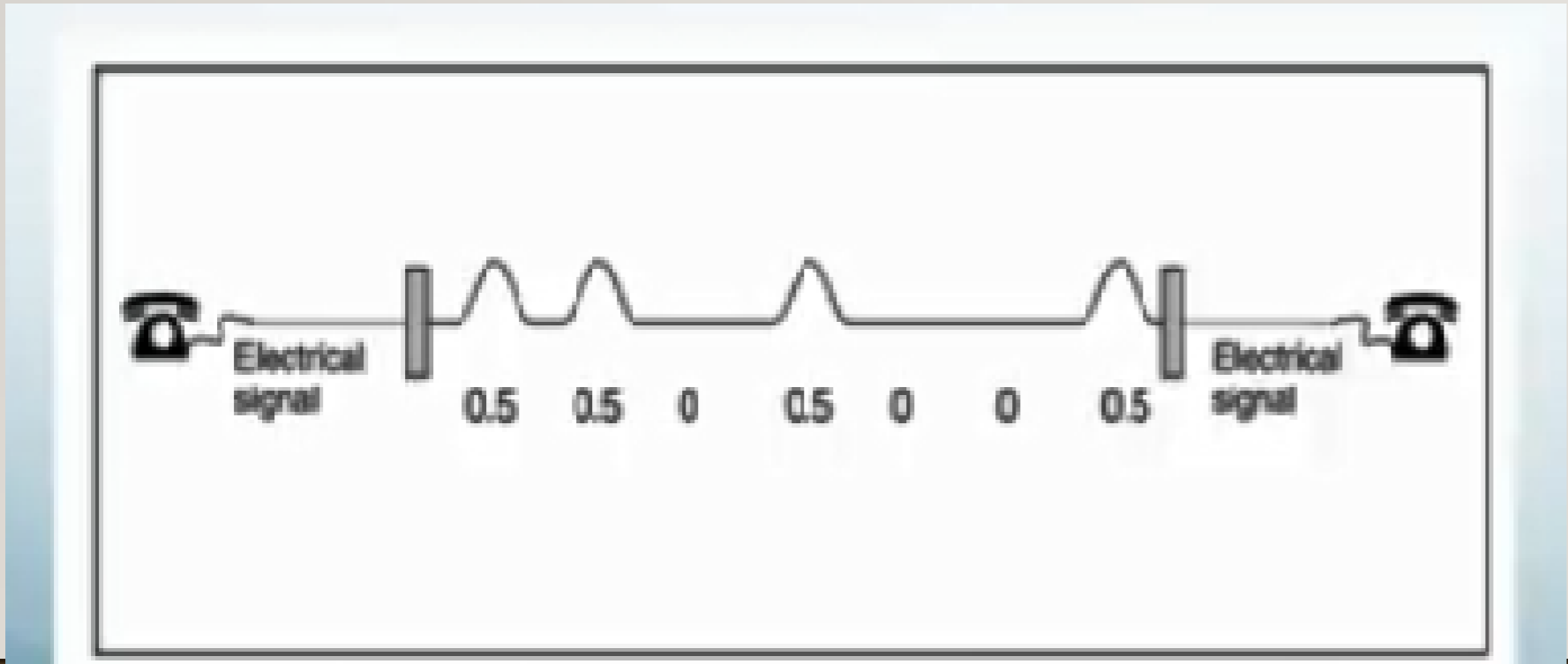


Serat Melengkung atau Terlekok

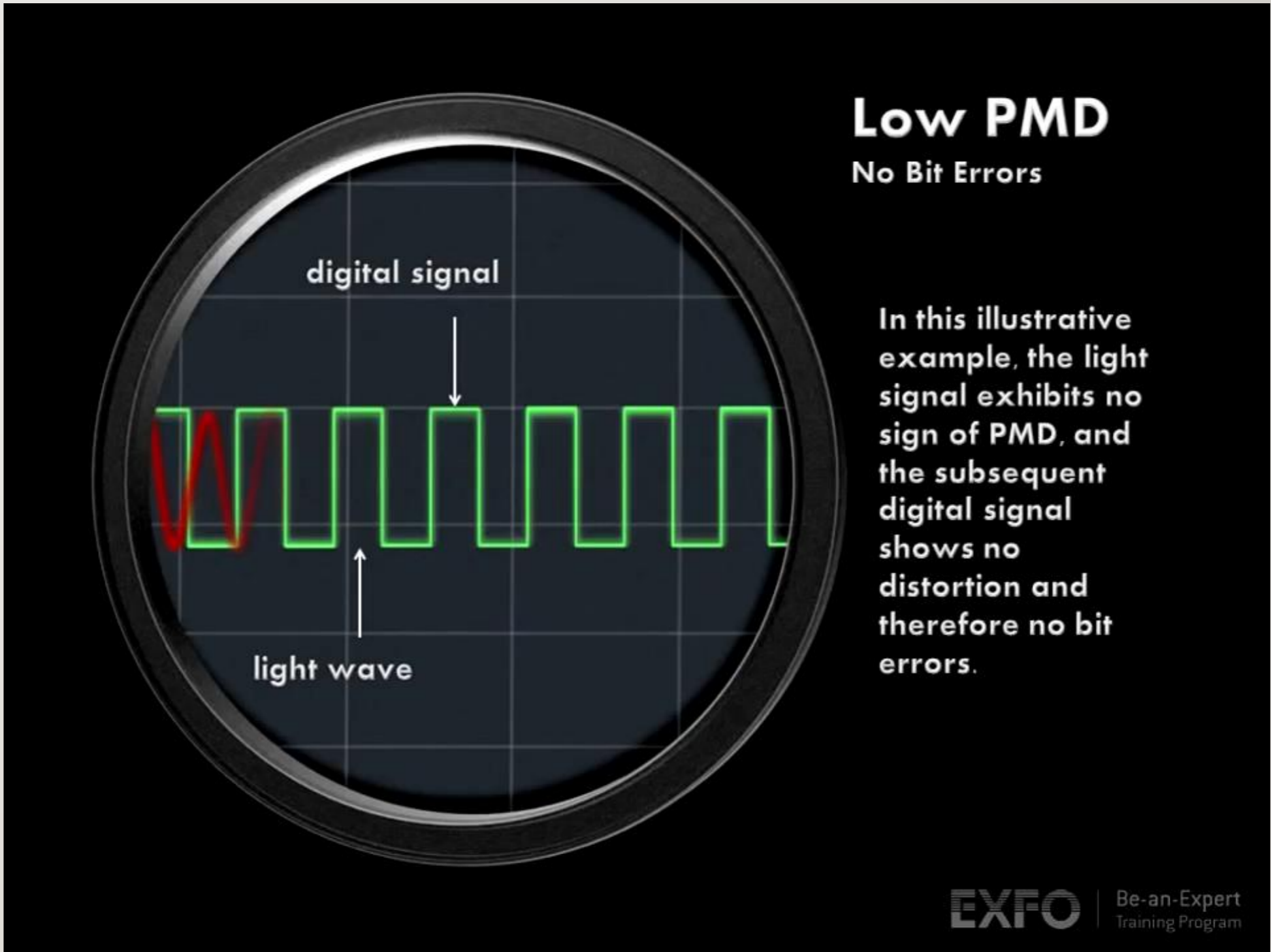
PENGARUH DISPERSI MODE POLARISASI



Gambar 1. Pulsa Sinyal pada 2.5 Gb/s tanpa Dispersi Mode Polarisasi



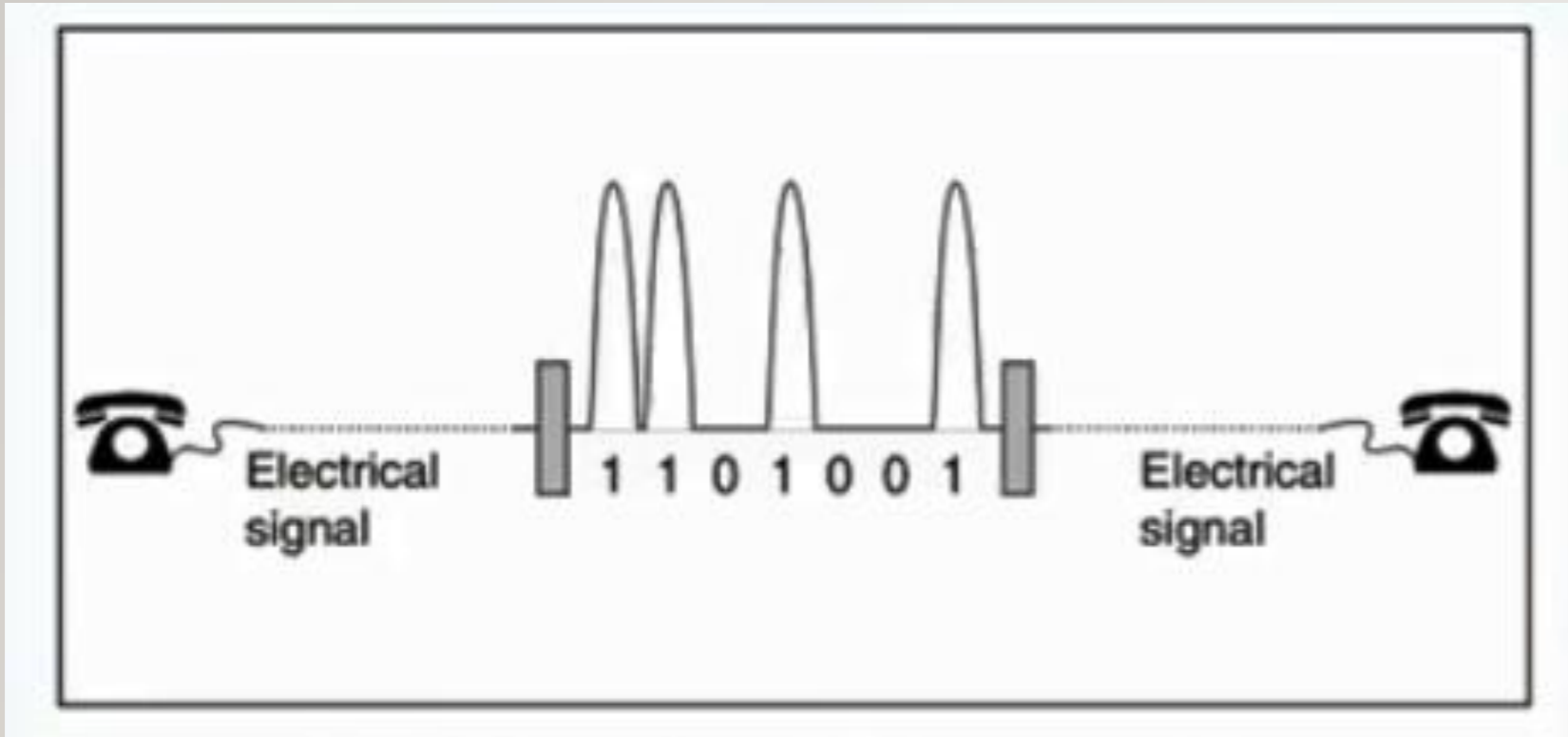
Gambar 2. Pulsa Sinyal pada 2.5 Gb/s Dengan Dispersi Mode Polarisasi



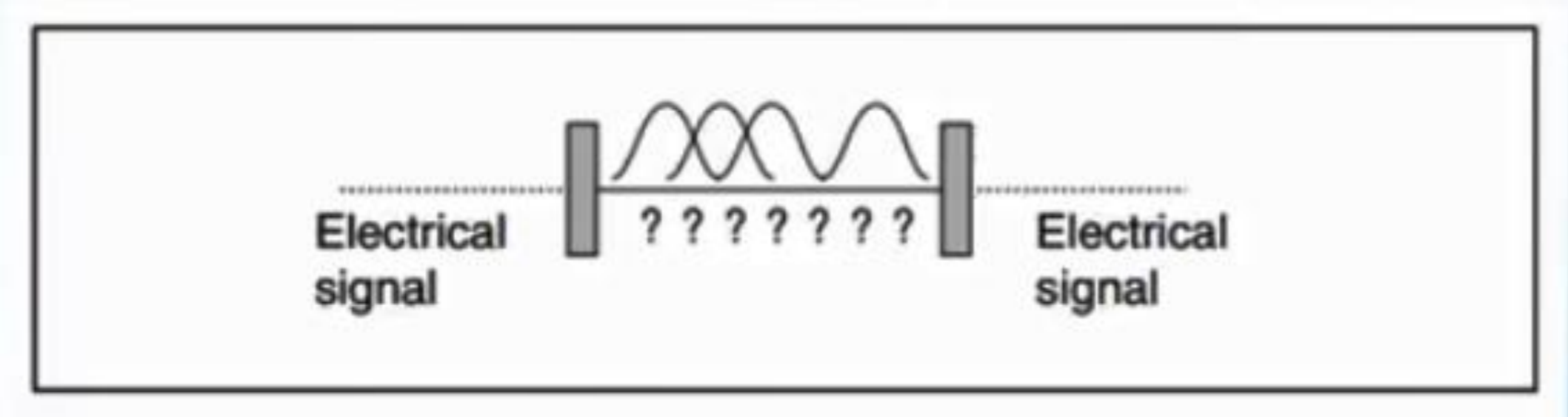
Gambar 3. Pulsa Sinyal Dengan Dispersi Mode Polarisasi rendah

Sumber Referensi https://www.youtube.com/watch?v=J4-wCa_VNfA&t=47s
<https://www.youtube.com/watch?v=DKCHYUyXYXo&t=1s>
Gerd,Keiser.,2010, *Optical Fiber Communications*, 4th edition,McGraw Hill, International Edition

PENGARUH DISPERSI MODE POLARISASI



Gambar 1. Pulsa Sinyal pada 10 Gb/s tanpa Dispersi Mode Polarisasi



Gambar 2. Pulsa Sinyal pada 10 Gb/s Dengan Dispersi Mode Polarisasi

Gambar 3. Pulsa Sinyal Dengan Dispersi Mode Polarisasi Tinggi

*Sumber Referensi https://www.youtube.com/watch?v=J4-wCa_VNfA&t=47s
<https://www.youtube.com/watch?v=DKCHYUxYXo&t=4s>
 Gerd,Keiser.,2010, *Optical Fiber Communications*, 4th edition,McGraw Hill, International Edition



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