

SISTEM KOMUNIKASI OPTIK

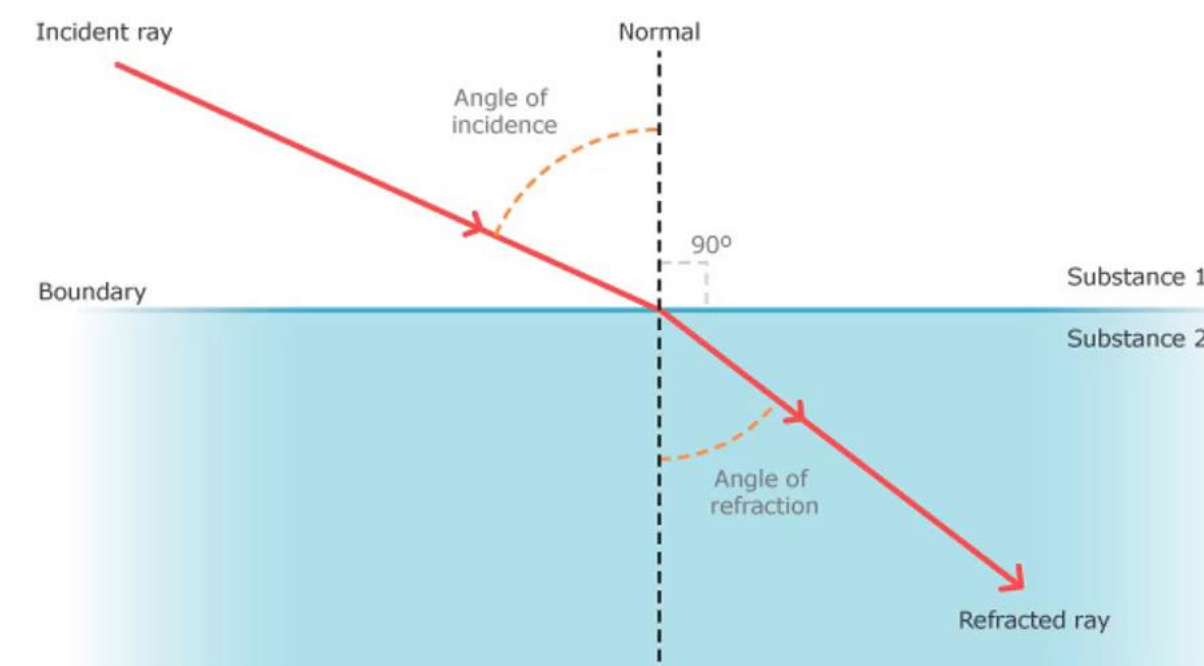
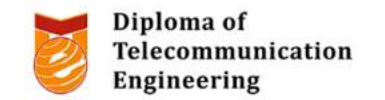


- **BAB 2**
 - **PEMBIASAN CAHAYA**
 - **PADA SERAT OPTIK**
-
- **D3 Teknik Telekomunikasi – Fakultas Ilmu Terapan**

PEMBIASAN CAHAYA



REFRAKSI



INDEKS BIAS

3

❖ Indeks Bias :

$$n = \frac{c}{v}$$

n = **indeks bias** medium (*index of refraction*)

c = Kecepatan cahaya di ruang hampa udara

= 3×10^8 m/s

v = Kecepatan cahaya di suatu medium (m/s)



INDEKS BIAS

$$c = \frac{1}{\sqrt{\epsilon_0 \mu_0}} \approx 3 \times 10^8 \text{ m/s}$$

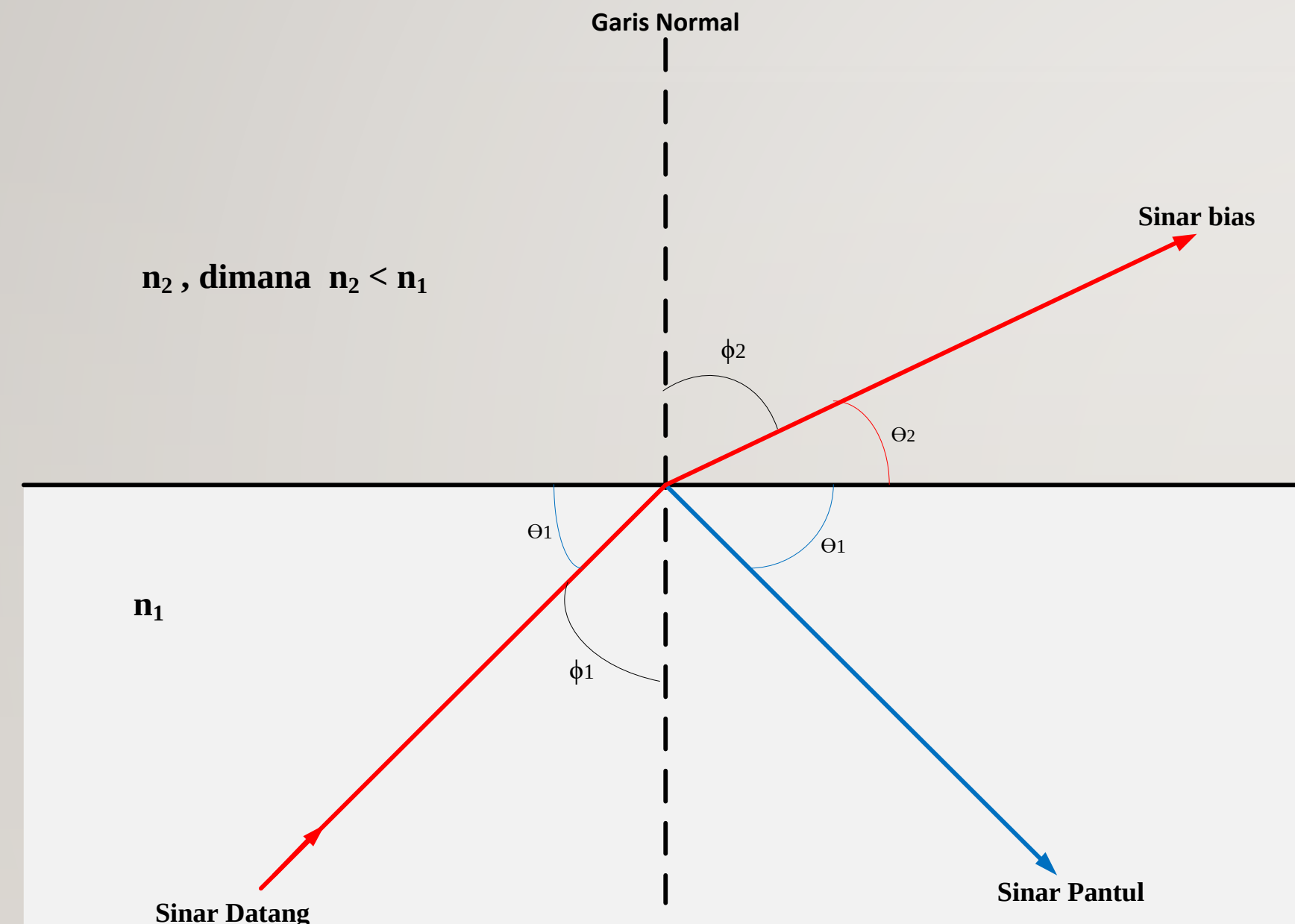
μ_0 : Permeabilitas hampa udara = $4\pi \times 10^{-7} \text{ N s}^2 \text{ C}^{-2}$

ϵ_0 : Permittivitas hampa udara = $8,85 \times 10^{-12} \text{ C}^2 \text{ N}^{-1} \text{ m}^{-2}$

λ : Panjang gelombang (nm)

❖ $n_{\text{udara}} = 1$, $n_{\text{air}} = 1,33$ dan $n_{\text{glass silika}} = 1,45$

HUKUM SNELLIUS

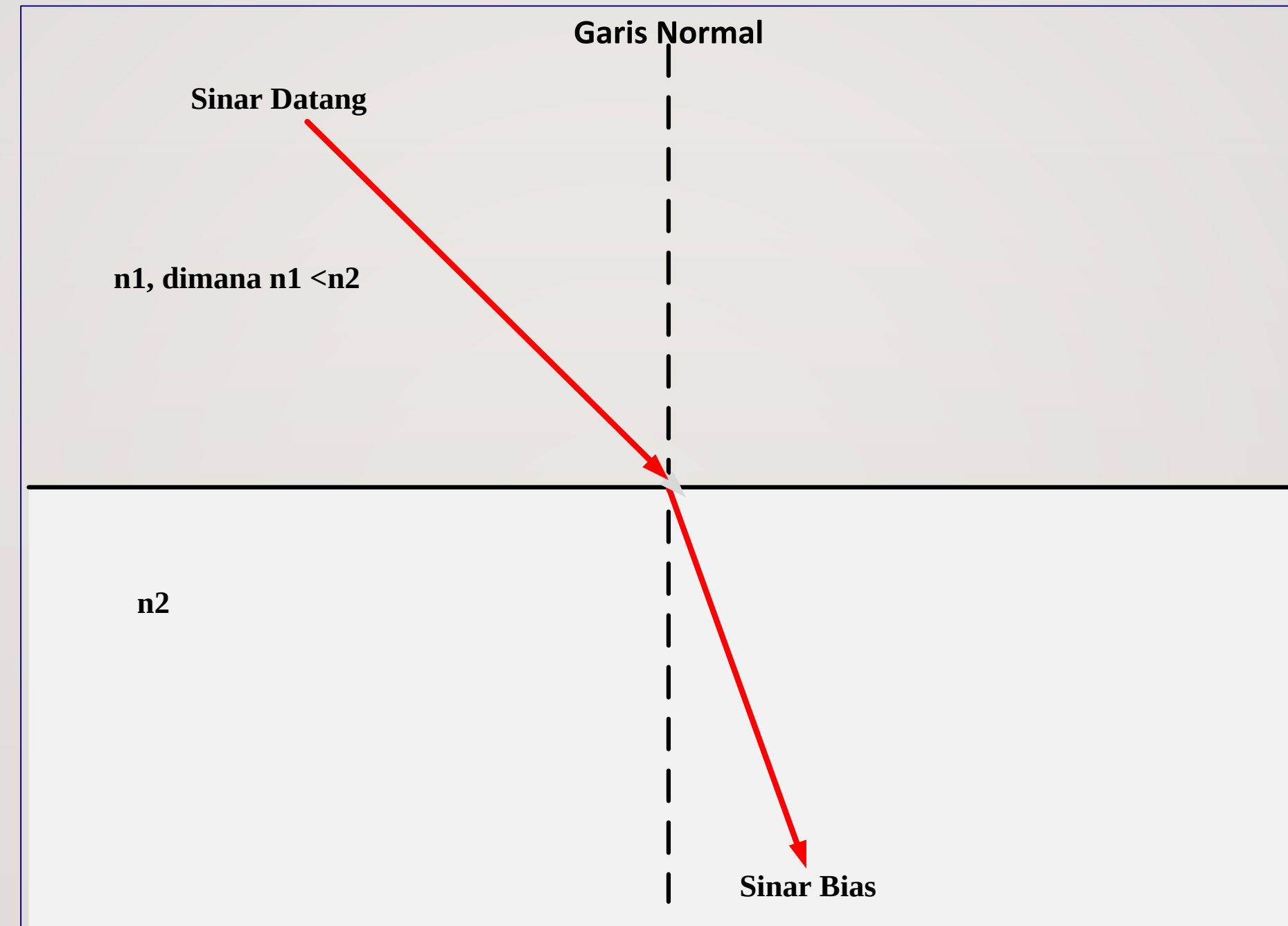


$$n_1 \sin \phi_1 = n_2 \sin \phi_2$$

Atau dapat dinyatakan dengan :

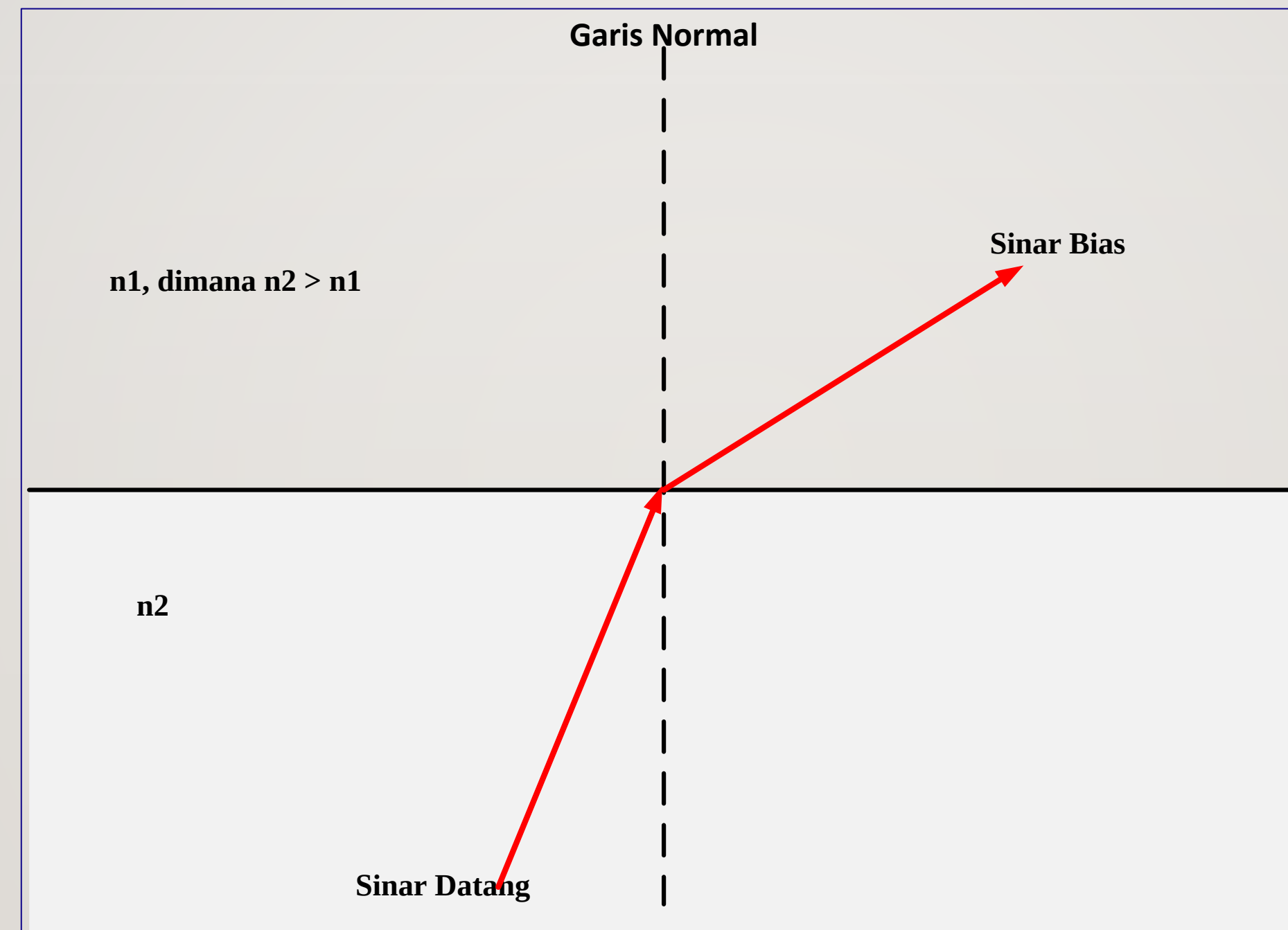
$$\frac{n_1}{n_2} = \frac{\sin \phi_2}{\sin \phi_1}$$

HUKUM SNELLIUS PEMBIASAN



Pembiasan Sinar Cahaya Mendekati Garis Normal

HUKUM SNELLIUS PEMBIASAN



Pembiasan Sinar Cahaya Menjauhi Garis Normal

TERIMA KASIH

