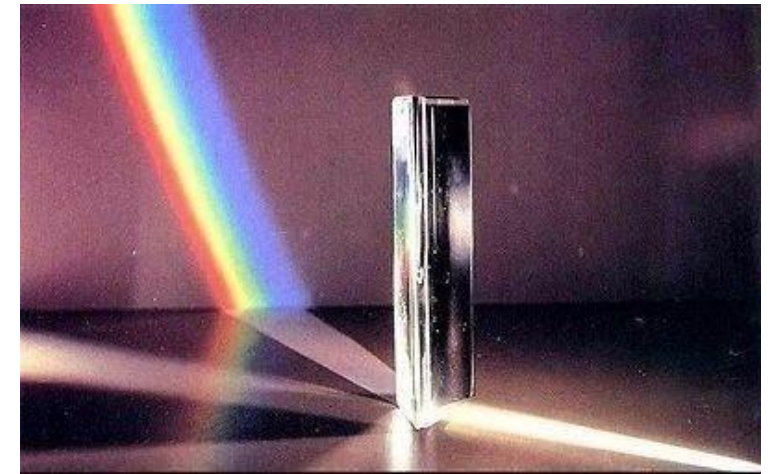
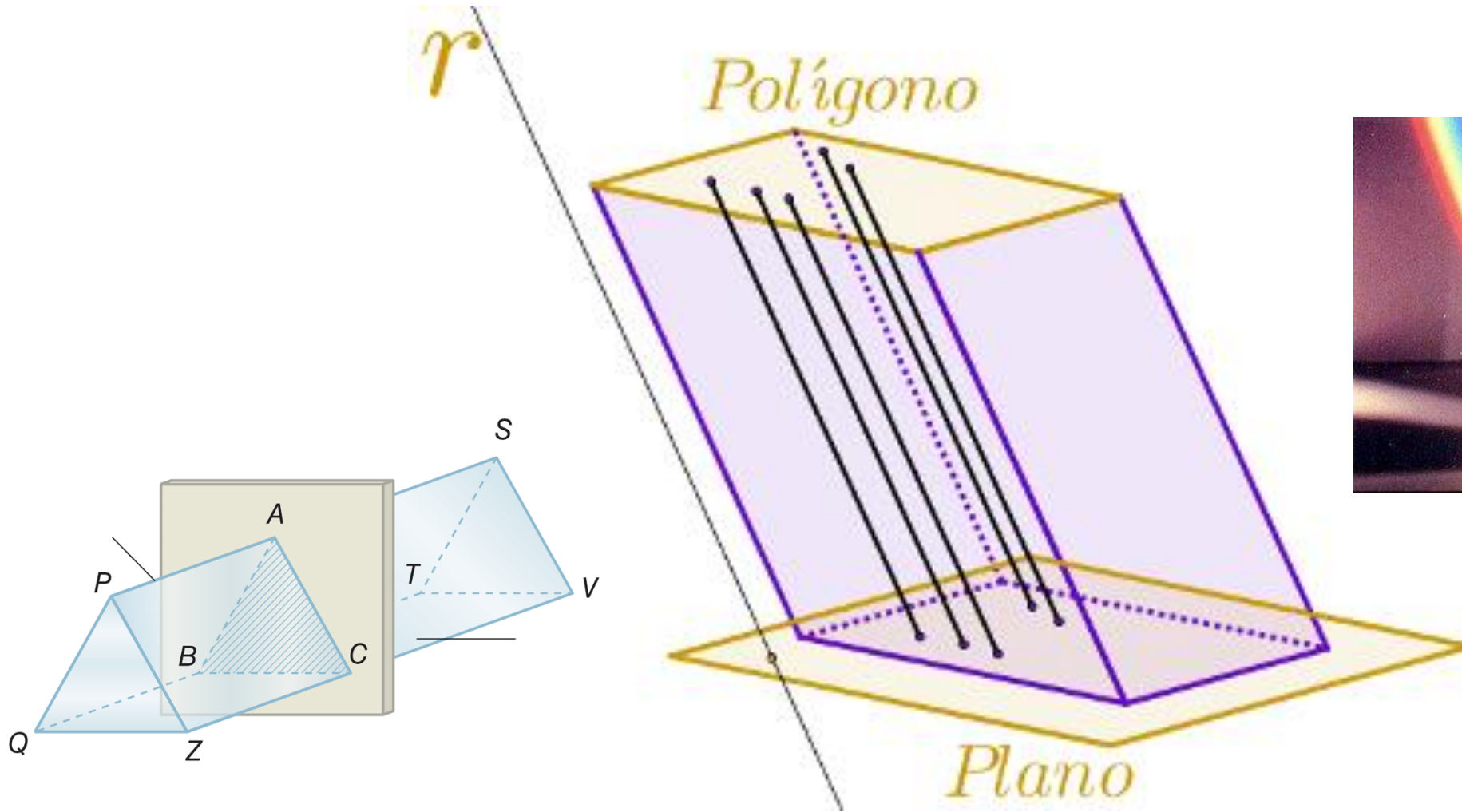


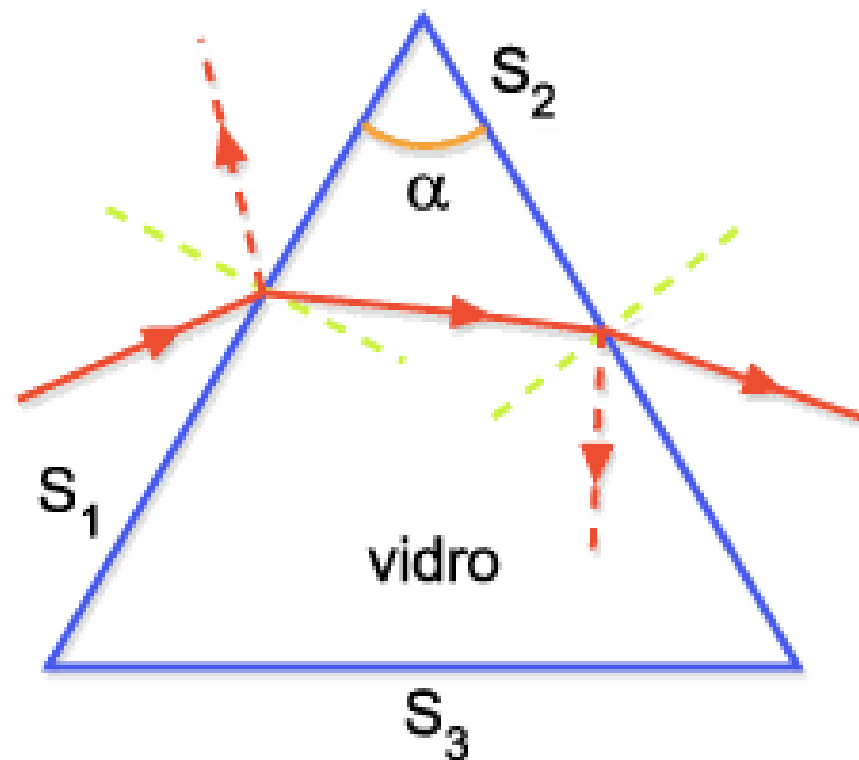
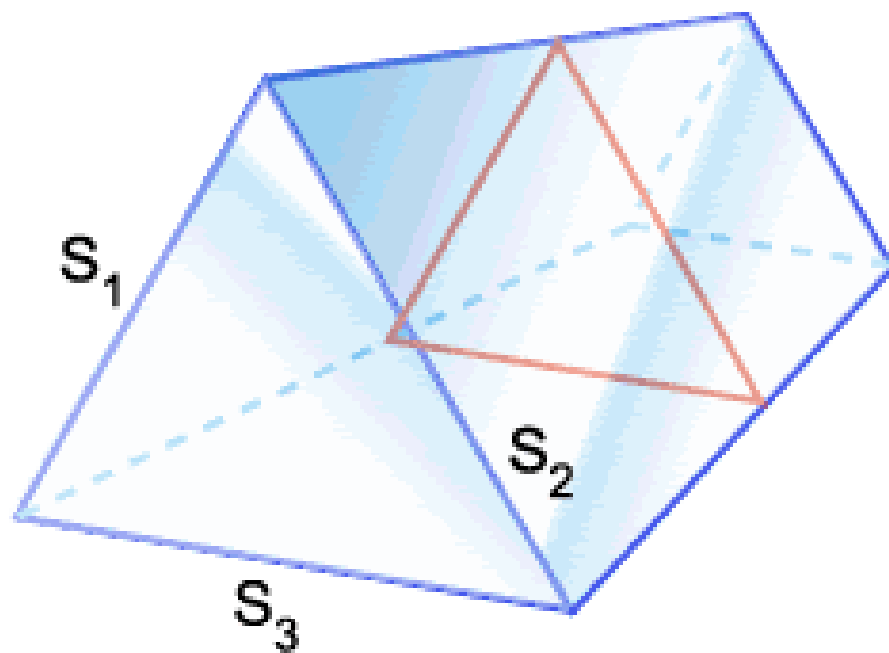
Prisma óptico

Prof. Nilo
Física

Prisma

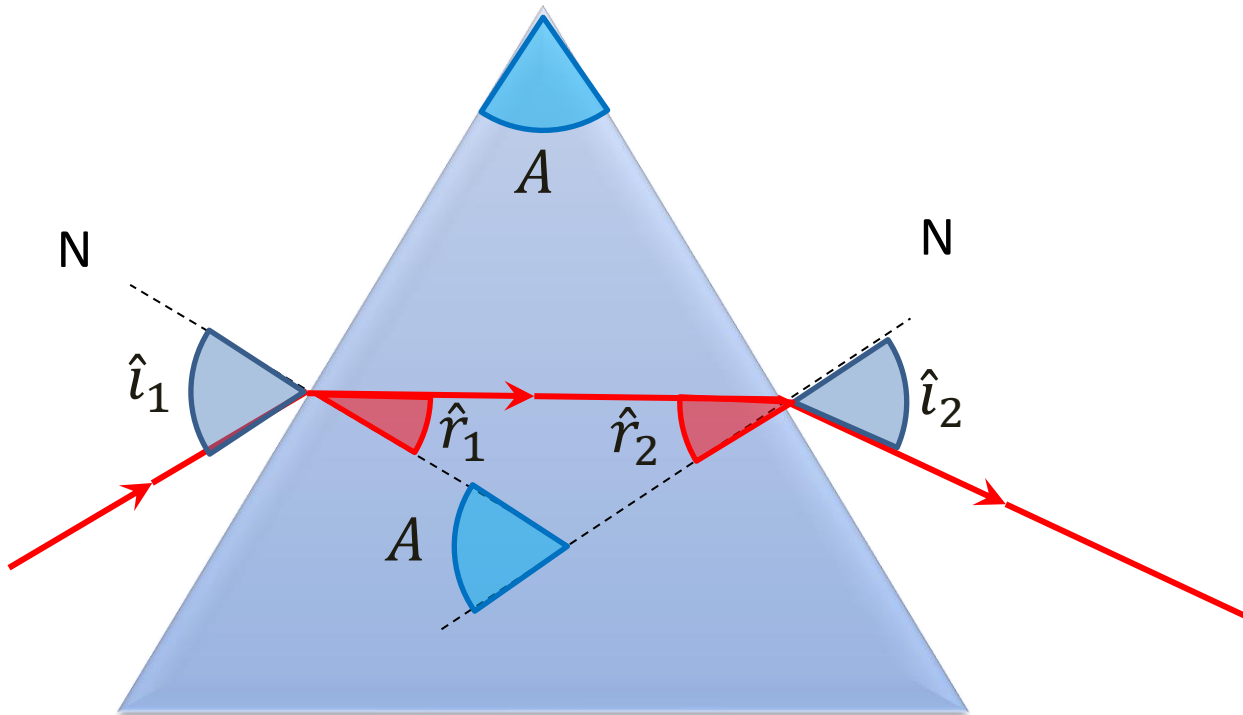


Prisma óptico



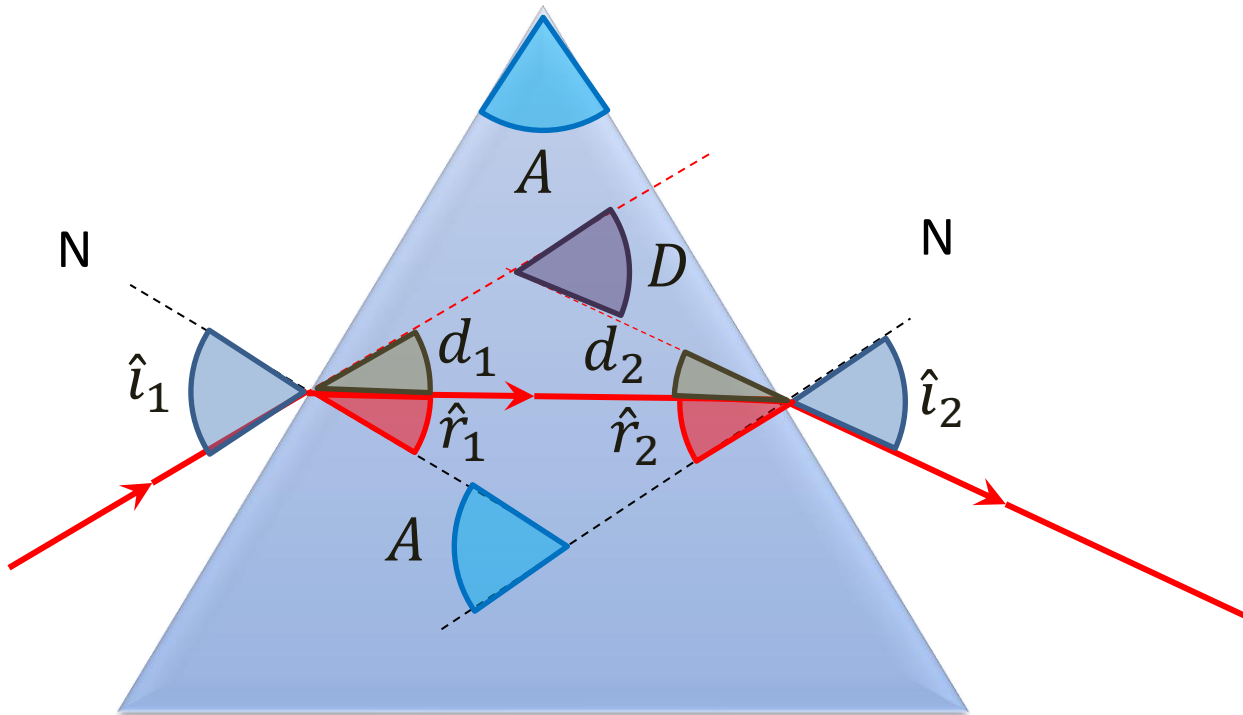
Prisma óptico

$$n_1 \cdot \text{sen } i_1 = n_2 \cdot \text{sen } r_1$$
$$n_2 \cdot \text{sen } r_2 = n_1 \cdot \text{sen } i_2$$



$$r_1 + r_2 = A$$

Prisma óptico



$$n_1 \cdot \text{sen } i_1 = n_2 \cdot \text{sen } r_1$$

$$n_2 \cdot \text{sen } r_2 = n_1 \cdot \text{sen } i_2$$

$$r_1 + r_2 = A$$

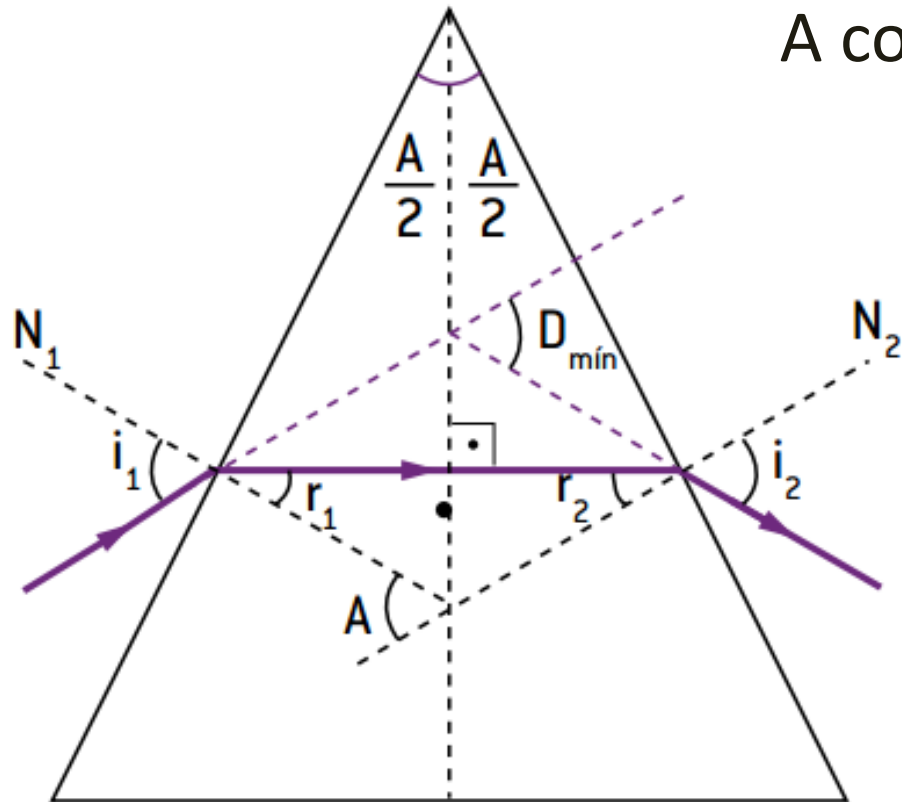
$$D = d_1 + d_2$$

$$d_1 = i_1 - r_1$$

$$d_2 = i_2 - r_2$$

$$D = i_1 + i_2 - A$$

Desvio mínimo



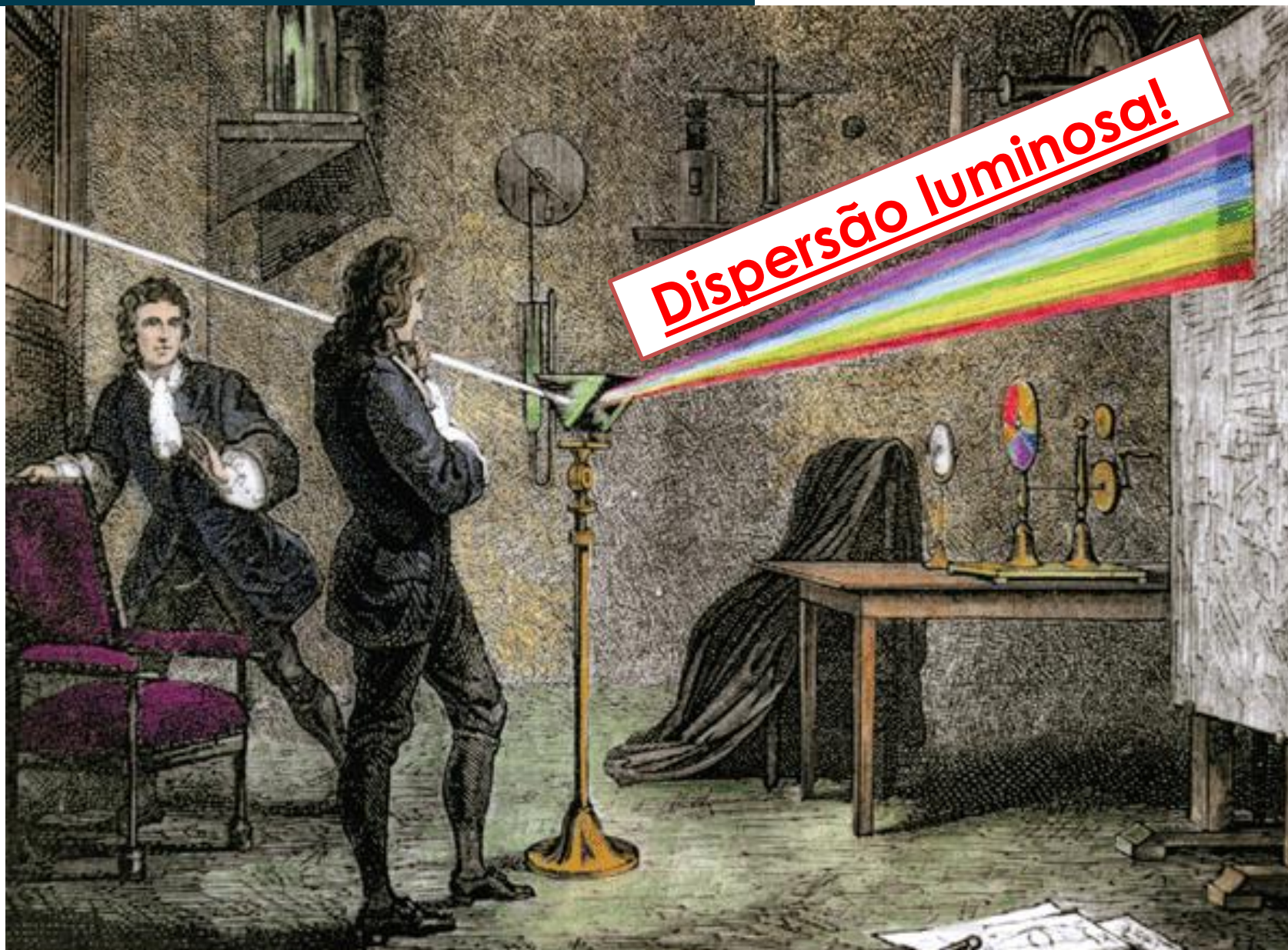
A condição para termos o desvio mínimo é:

$$i_1 = i_2$$

Que o ângulo de incidência seja igual ao ângulo emergente

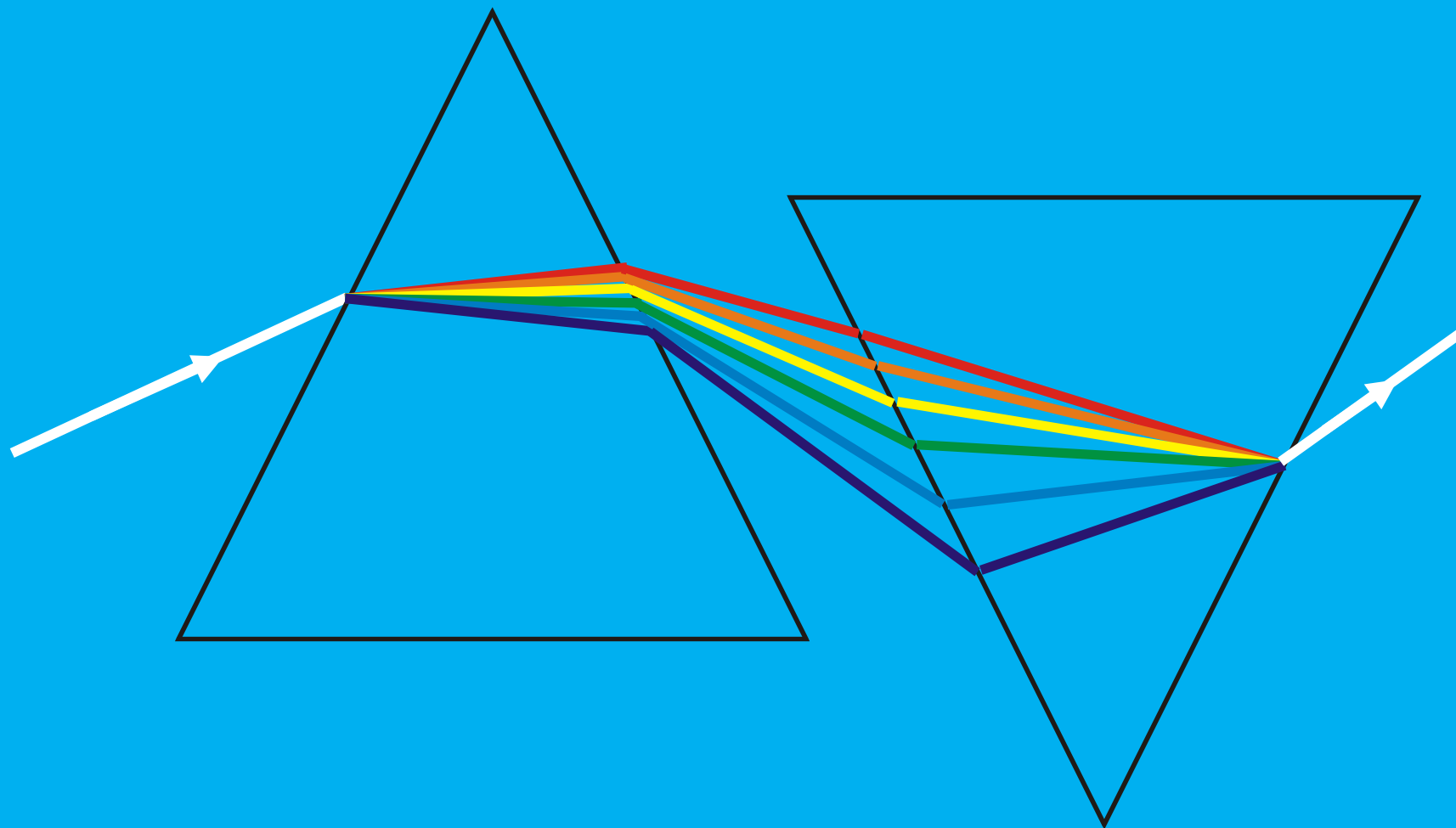
$$D_{\text{mín}} = 2i_1 - A$$

Decomposição da luz branca

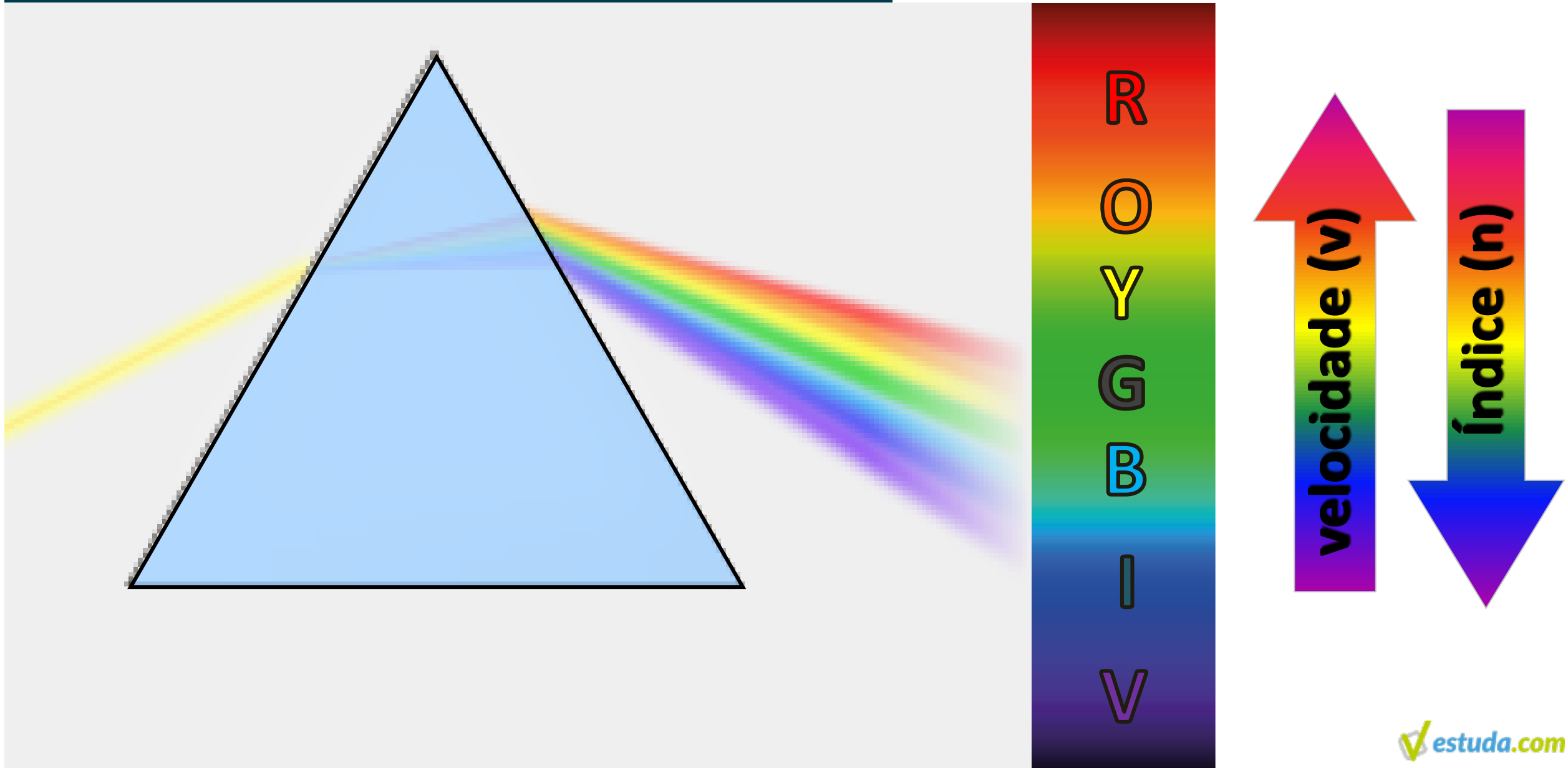


Dispersão luminosa!

Decomposição da luz branca



Dispersão luminosa



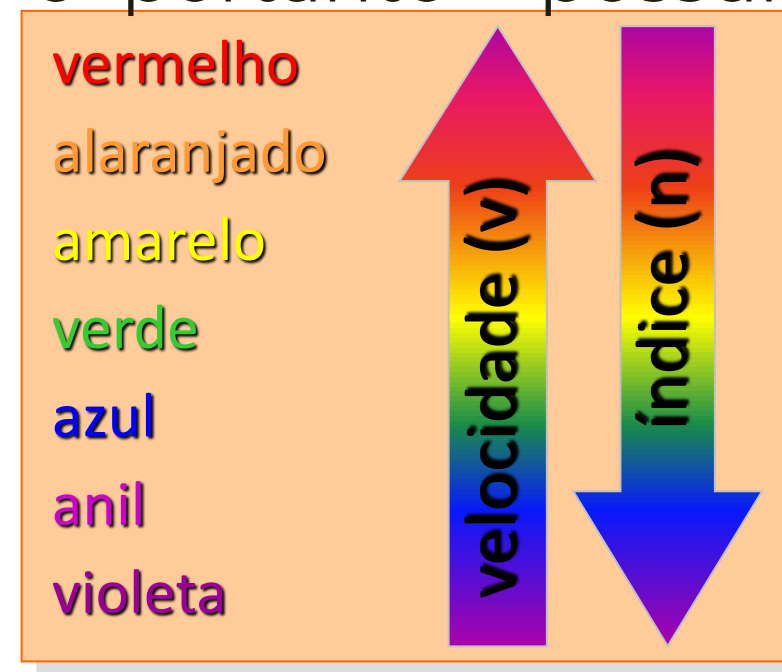
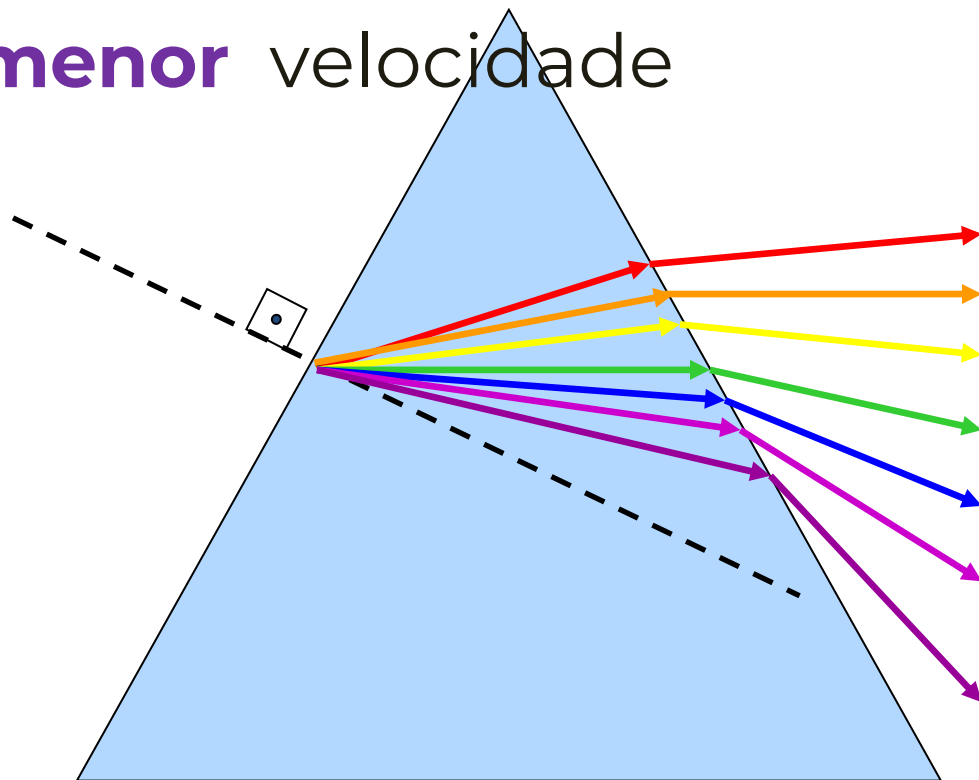
Decomposição da luz branca

→ Dispersão luminosa!

Cor	Índice de refração
Vermelha	1,414
Alaranjada	1,520
Amarela	1,590
Verde	1,602
Azul	1,608
Anil	1,701
Violeta	1,732

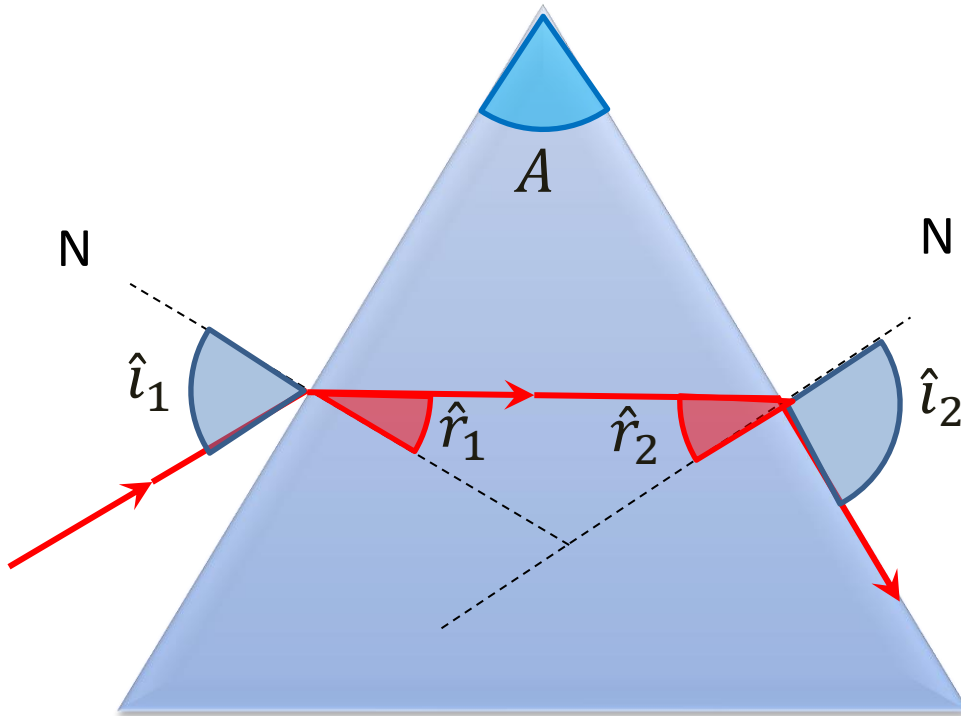
Dispersão luminosa

1. A luz **vermelha** é a **menos** desviada , possui a **maior** velocidade.
2. A luz **violeta** é a **mais** desviada e portanto possui a **menor** velocidade



Quanto maior o n
maior o desvio

Desvio angular máximo



$$i_2 = 90^\circ$$

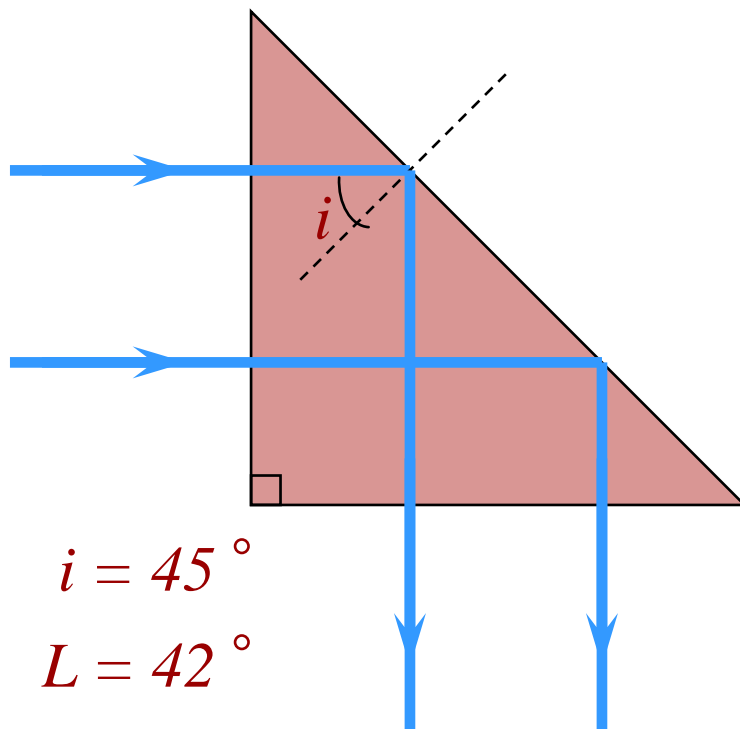
Prismas de reflexão total

- Ângulo limite do vidro: cerca de 42°
- Em ângulos de incidência maiores \rightarrow reflexão total da luz

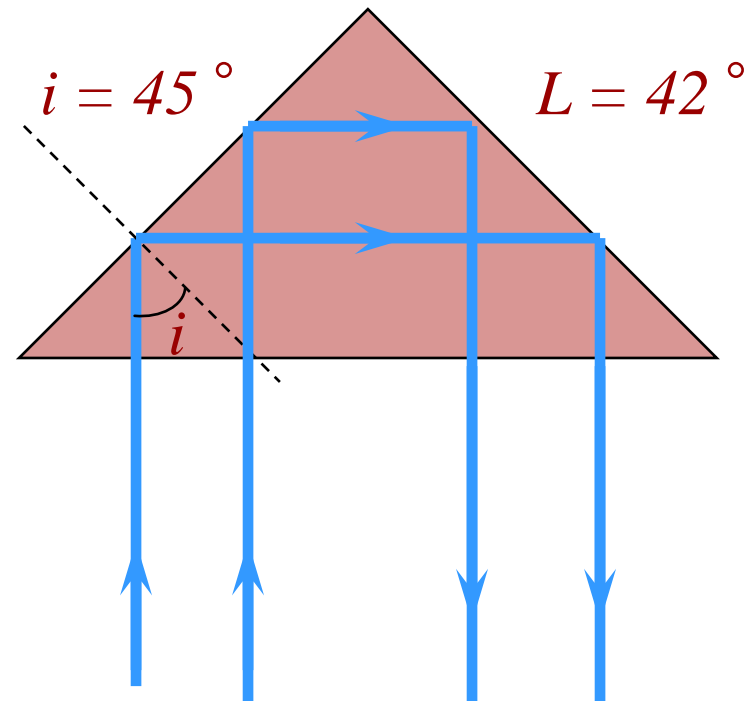


Prismas de reflexão total

Prisma de Amici

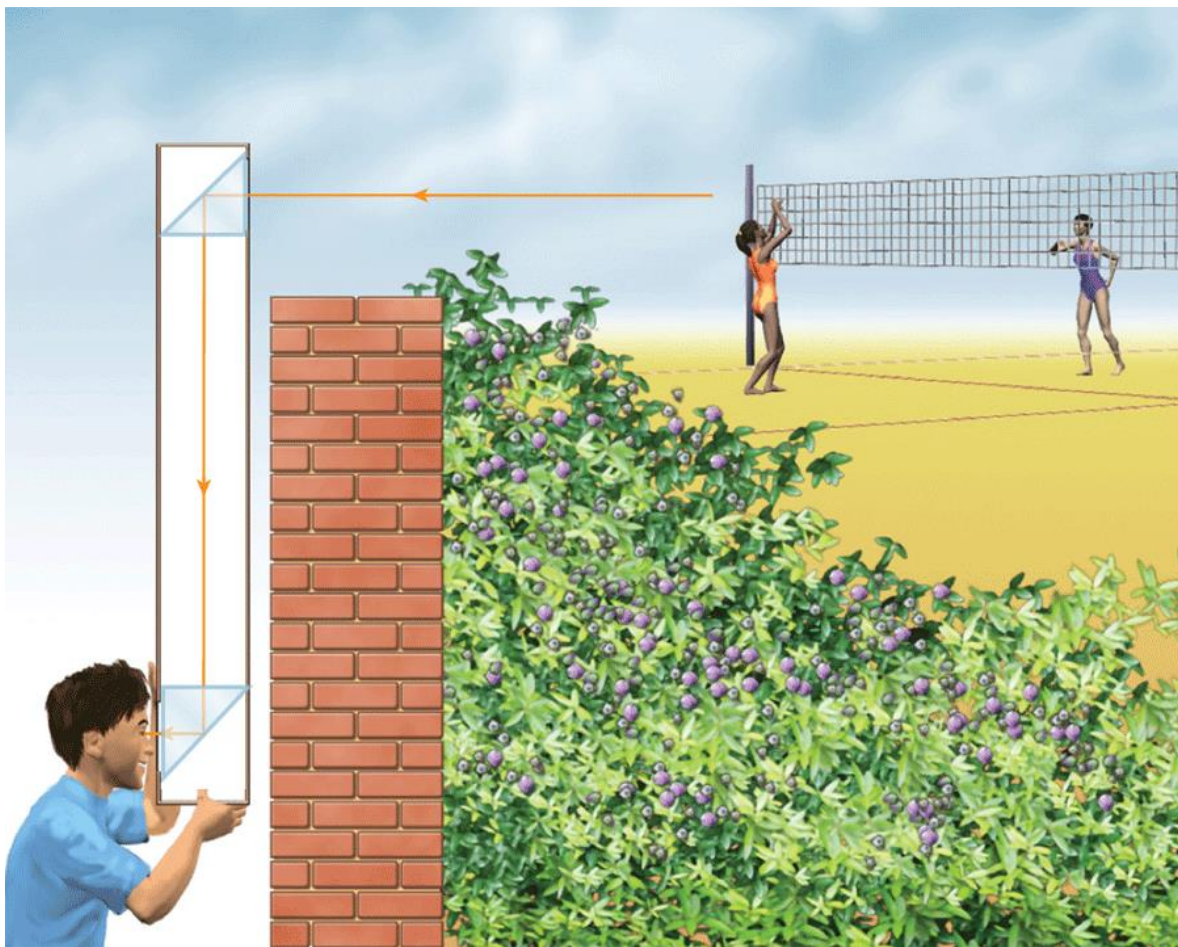


Prisma de Porro

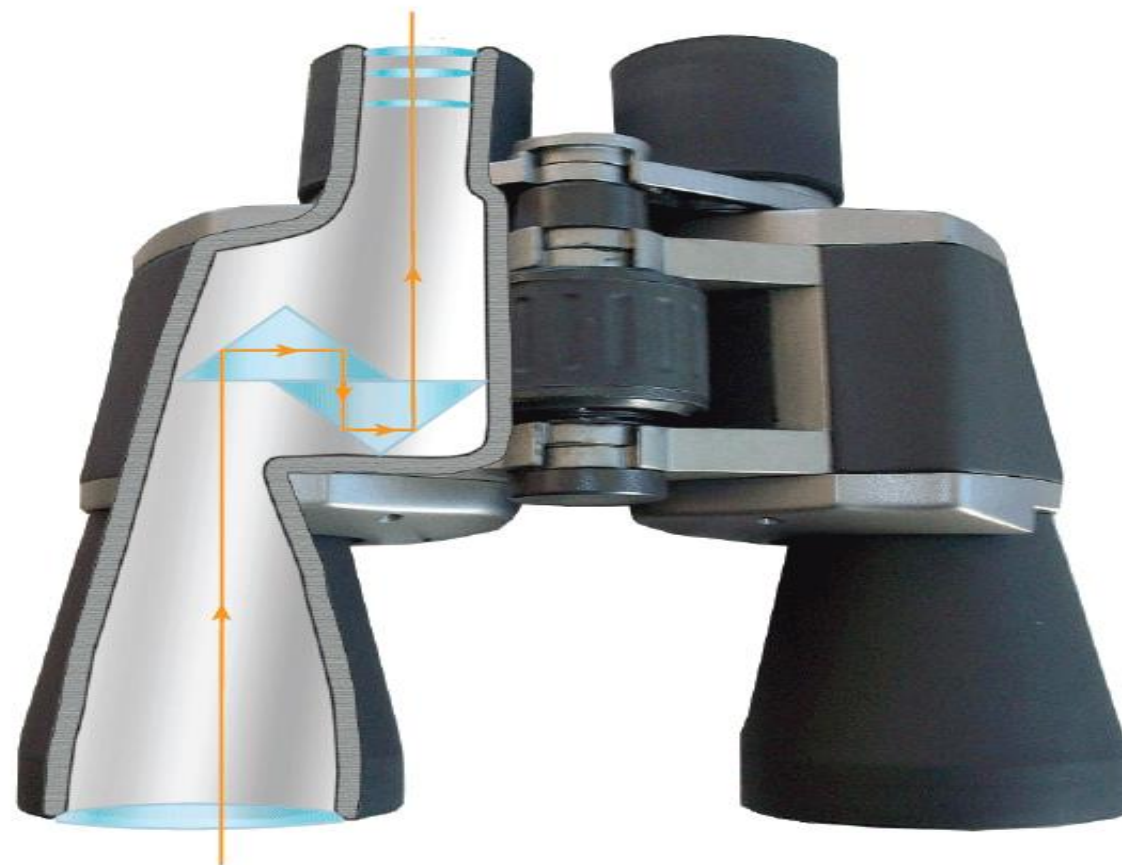


Prismas de reflexão total - Aplicações

Periscópio



Binóculo



OBRIGADO!