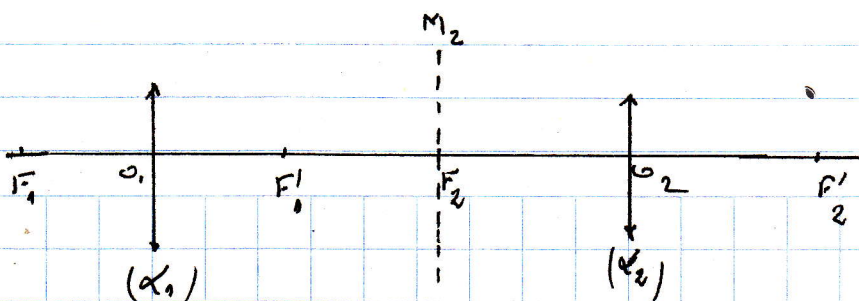


0924 - Microscope

$$A \xrightarrow{\alpha_1} A' \xrightarrow{\alpha_2} A''$$



$$1. \begin{cases} AB = 119 \cdot 10^{-2} \text{ mm} \\ A'B' = 95 \cdot 10^{-1} \text{ mm} \end{cases} \quad \left| \gamma_{obj} \right| = \frac{A'B'}{AB} = \frac{95}{119} \cdot 10^1 = 7,98 \approx 8$$

$$2. \text{ Relation de grandissement: } \gamma_{obj} = \frac{\overline{O_1 A'}}{\overline{O_1 A}} = \frac{\overline{O_1 F_2}}{\overline{O_1 A}} = \frac{\overline{O_1 F_1'} + \overline{F_1' F_2}}{\overline{O_1 A}} = \frac{f_1' + \Delta}{f_1'}$$

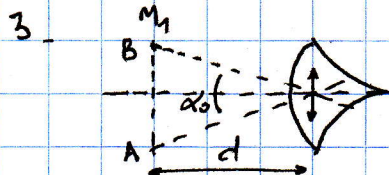
$$\text{conjugaison: } \frac{1}{\overline{O_1 A'}} - \frac{1}{\overline{O_1 A}} = \frac{1}{f_1'} \rightarrow \frac{1}{f_1' + \Delta} - \frac{\gamma}{f_1' + \Delta} = \frac{1}{f_1'}$$

$$\rightarrow \frac{1 - \gamma}{f_1' + \Delta} = \frac{1}{f_1'} \rightarrow \frac{f_1' + \Delta}{1 - \gamma} = f_1' \rightarrow \Delta = -\gamma f_1'$$

$$\Delta = 140 \text{ cm}$$

$$\text{NB: Avec Newton } \overline{F_1 A} \cdot \overline{F_1' A'} = -f_1'^2 \rightarrow \overline{F_1 A} \cdot \overline{F_1' F_2} = -f_1'^2$$

$$\text{et } \gamma = \frac{\overline{F_1' A'}}{\overline{F_1 A}} = \frac{f_1'}{\overline{F_1 A}} \rightarrow \frac{f_1'}{\gamma} = \overline{F_1 A} \quad \Delta = -\gamma f_1'$$



$$A'B' = \gamma_{obj} \cdot AB; \quad \alpha \approx \frac{A'B'}{f_2'} \rightarrow \alpha = \frac{\gamma_{obj}}{f_2'} AB$$

$$\alpha_0 = \frac{AB}{d}$$

$$G = \frac{\alpha}{\alpha_0} = \gamma_{obj} \frac{d}{f_2'} \quad \text{A.N.: } G = 80$$

