

$$d_1 = \frac{\|\vec{AB} \wedge \vec{u}_1\|}{\|\vec{u}_1\|} \quad \text{avec} \quad \vec{AB} = \begin{pmatrix} 1 & -3 \\ 3 & -1 \\ -4 & 2 \end{pmatrix} = \begin{pmatrix} -2 \\ 2 \\ -2 \end{pmatrix}$$

$$\vec{AB} \wedge \vec{u}_1 = \begin{pmatrix} -2 \\ 2 \\ -2 \end{pmatrix} \wedge \begin{pmatrix} 2 \\ 4 \\ -3 \end{pmatrix} = \begin{pmatrix} 2 \\ -10 \\ -12 \end{pmatrix} \quad \|\vec{AB} \wedge \vec{u}_1\| = \sqrt{4+100+144} = \sqrt{248} \Rightarrow d_1 = \frac{\sqrt{248}}{\sqrt{29}} \approx \underline{2,92 \text{ m}}$$

$$\|\vec{u}_1\| = \sqrt{4+16+9} = \sqrt{29}$$

$$d_2 = \frac{\|\vec{AB} \wedge \vec{u}_2\|}{\|\vec{u}_2\|} \quad \text{avec} \quad \vec{AB} \wedge \vec{u}_2 = \begin{pmatrix} -2 \\ 2 \\ -2 \end{pmatrix} \wedge \begin{pmatrix} 1 \\ -1 \\ 4 \end{pmatrix} = \begin{pmatrix} 6 \\ 6 \\ 0 \end{pmatrix} \Rightarrow \|\vec{AB} \wedge \vec{u}_2\| = \sqrt{72} \Rightarrow d_2 = \frac{\sqrt{72}}{\sqrt{18}} = \underline{2 \text{ m}}$$

$$\|\vec{u}_2\| = \sqrt{18}$$

$d_2 < d_1 \Rightarrow B$ est plus proche de \mathcal{P}_2 que de \mathcal{P}_1 .

$$V = |[\vec{u}_1; \vec{u}_2; \vec{AB}]| = |[\vec{AB}; \vec{u}_1; \vec{u}_2]| = |(\vec{AB} \wedge \vec{u}_1) \cdot \vec{u}_2|$$

$$= \left| \begin{pmatrix} 2 \\ -10 \\ -12 \end{pmatrix} \cdot \begin{pmatrix} 1 \\ -1 \\ 4 \end{pmatrix} \right| = 36 \text{ m}^3.$$

Le volume est de 36 m³.