

$$\Delta: P \rightarrow P \times P$$

$$\beta: P \times P \rightarrow P$$

$$(x, y) \mapsto \frac{x+y}{2}$$

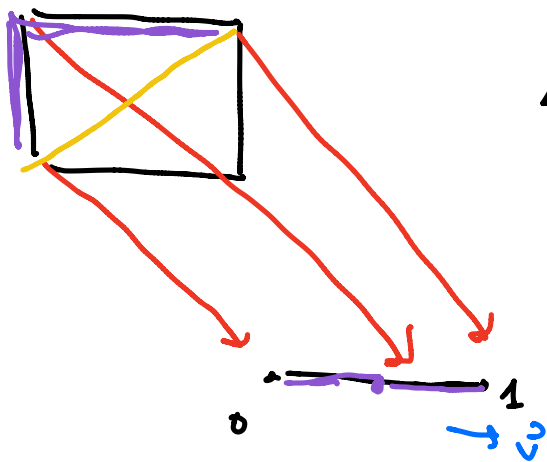
$$\langle \cdot, \vec{v} \rangle$$

$$\langle x-y, \vec{v} \rangle$$

$$\langle \cdot, \vec{v} \rangle: P \times P \rightarrow \mathbb{R}$$

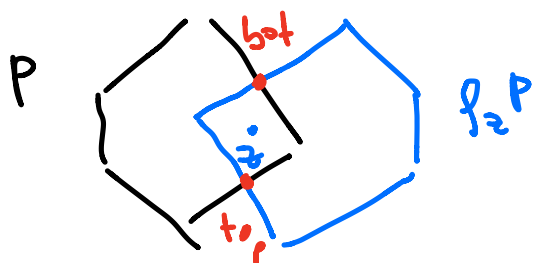
$$(x, y) \mapsto \langle x-y, \vec{v} \rangle$$

tight coh. subdivis. \Leftrightarrow ! section

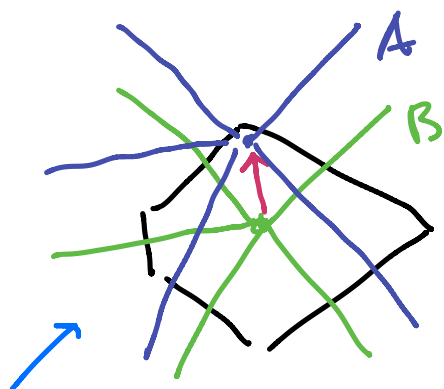


$$\Delta: P \rightarrow P \times P$$

$$z \mapsto (\text{bot}_z P \cap \vec{v}_z P, \text{top}_z P \cap \vec{v}_z P)$$



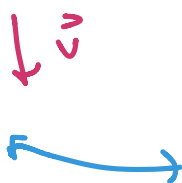
$\Delta: P \times P \rightarrow P$ doit être orienté par \vec{v}



$$\Delta: P \rightarrow P \times P$$



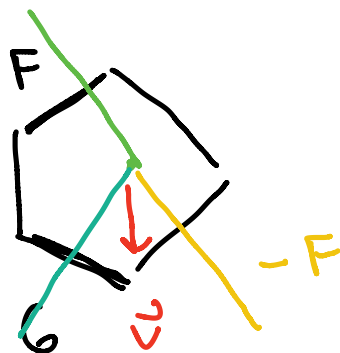
$$C^*(P) \otimes C^*(P) \rightarrow C^*(P)$$



$$(F, G) \in \text{Im } \Delta$$



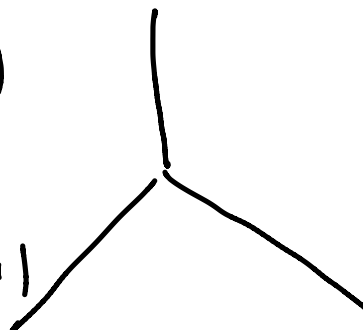
$$\vec{v} \in \text{Cône} \left(\text{rayons de } F \cup \text{rayons de } G \right)$$



$$(1, 0, 0)$$



$$(0, 1, 1)$$

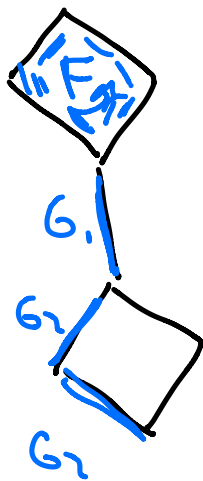
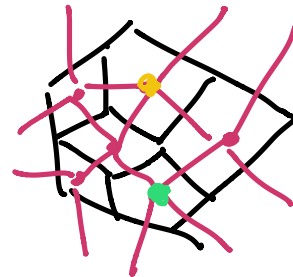
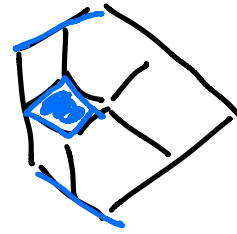
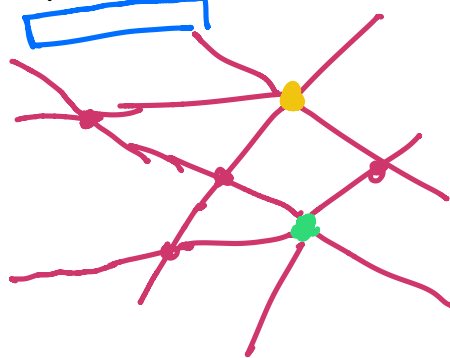


tout modulo $(1,1,1)$.

$$\text{Im } \Delta_n : \bigcup_{F,G} F \times G$$

$$d_i F + a_i G = d_i P$$

$$\text{top } F \leq \text{bot } G$$



$$\text{top } F \leq \text{bot } G$$



$$\exists \text{ combinatoire } > 0$$

$$\left\{ \begin{array}{l} \text{vecteurs} \\ \text{normaux de } F \end{array} \right\} + \left\{ \begin{array}{l} \text{opposés des} \\ \text{vecteurs} \\ \text{normaux de } G \end{array} \right\} = \vec{v}$$

Coord. décroissantes