

THE STRUCTURE OF CONVEXITY

INTERNAL THEORY

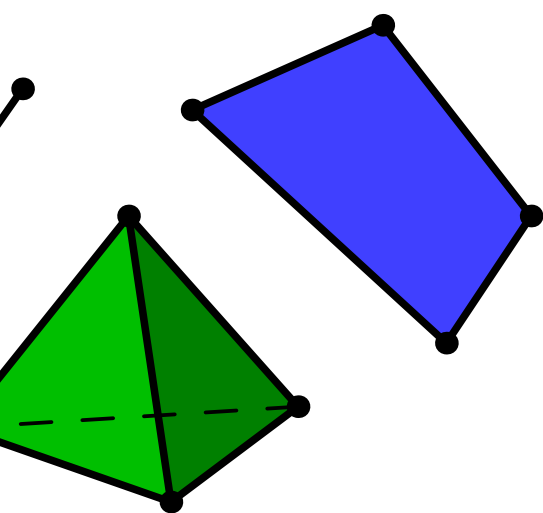
DEFINITION

(X, \mathcal{C}) — *convex space*:

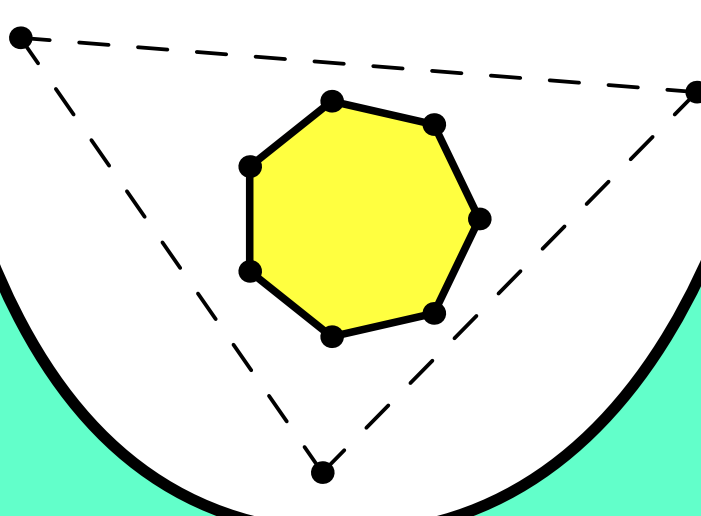
- (1) $\emptyset, X \in \mathcal{C}$
- (2) $\mathcal{A} \subset \mathcal{C} \Rightarrow \cap \mathcal{A} \in \mathcal{C}$
- (3) $\mathcal{N} \subset \mathcal{C} \Rightarrow \cup \mathcal{N} \in \mathcal{C}$

IDEA

POLYTOPE



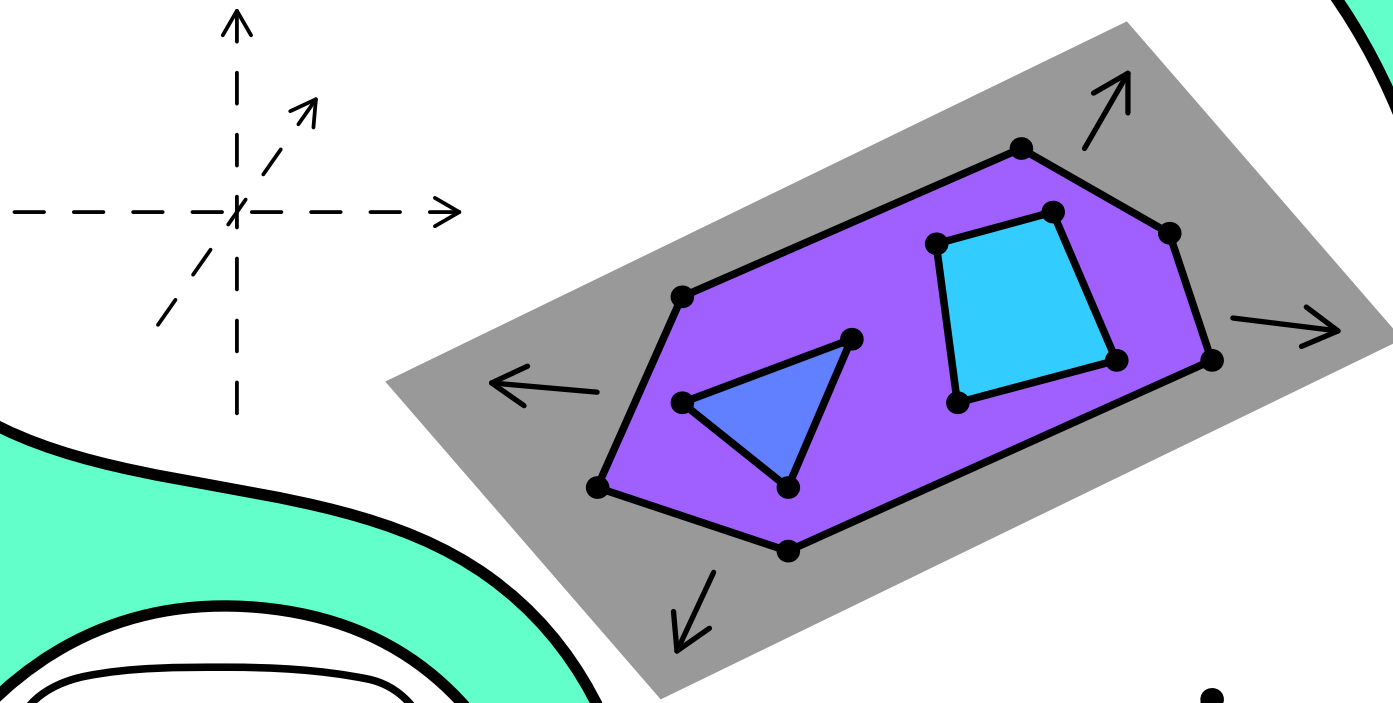
DIMENSION



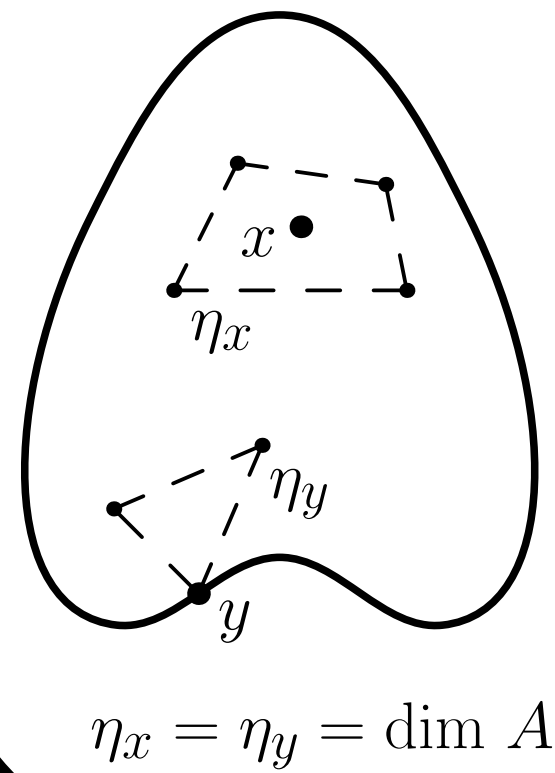
FREEDOM

HYPERPLANE

(Maximal net of polytopes of same dim.)



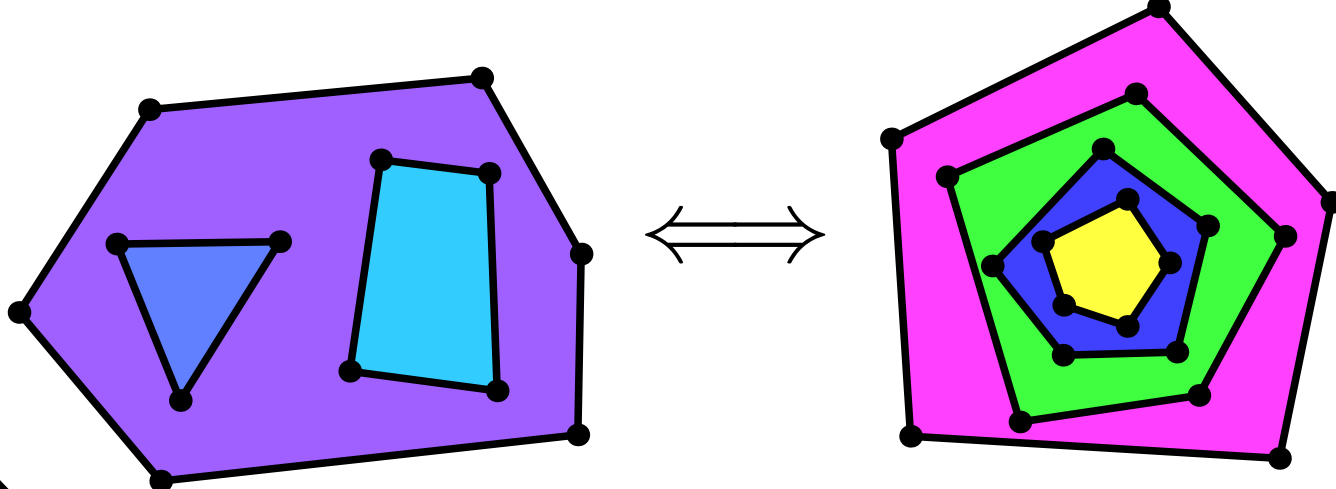
SUBSETS



TPUL

THEOREM

TPUL is equivalent to:



INDUCING STRUCTURE

INDUCED STRUCTURE

REFERENCES

UNIQUELY GEODESIC SPACES