Disjunctive cuts and application to optimization with piecewise-linear functions.

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Describing the convex hull of the union of a finite set of polyhedra is a fundamental problem of disjunctive programming. In the paper [1] a complete description is provided for so-called network-representable polyhedra. In the talk we present facet-separation algorithms, and also an application for computing with piecewise linear and convex $\mathbb{R}^3 \to \mathbb{R}$ functions.

References

[1] Tamás Kis, Markó Horváth, Ideal, non-extended formulations for disjunctive constraints admitting a network representation. Mathematical Programming, 194, pages 831–869 (2022).