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The disjunctive hull of facility location problems. Preliminary report.

It is well known that describing explicitly the convex hull of an NP-hard problem is intractable. It is also hard to describe some superset approximations of it like the split or Chvatal closure. Here we investigate the opportunity of describing explicitly some good approximation of the integer hull for some structured problems. In particular, we focus on the disjunctive hull of the facility location problem. We show that it is possible to describe the disjunctive hull in the original space and to separate over it. (Received September 24, 2018)