

Tangent cones of inverse Images of semi-algebraic sets

Dominik Dorsch and Harald Günzel

Abstract: We consider feasible sets that are defined as inverse images of an arbitrary but fixed semi-algebraic set. For such sets we define appropriate versions of tangent cones. For generic problem data we show that the tangent cones are pullbacks of tangent cones of the given semi-algebraic set. We also show that there exists a stratification of the given semi-algebraic set such that the structure of the tangent cones is in some sense stable on each stratum.