

# CONSTANT POSITIVE GENERATORS: A NEW CONSTRAINT QUALIFICATION

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We present a new constraint qualification that extends the relaxed constant rank constraint qualification. We relax the assumption that the rank of all subsets of gradients of active inequality constraints and equalities constraints must remain constant, to a single subset of such gradients which is easily computed. Our new constraint qualification also extends the relaxed constant positive linear dependence condition recently proposed and ensures the convergence of penalty based methods, like the augmented Lagrangian, and of a sequential quadratic programming algorithm.