# CQ-free Optimality Conditions for Copositive Programming Problems with Isolated Immobile Indices

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**Abstract:** We apply our recent results on optimality for convex Semi-Infinite Programming problems to a problem of Linear Copositive Programming. We prove explicit optimality conditions that use concepts of immobile indices and their immobility orders and do not require the Slater constraint qualification to be satisfied. The only assumption that we impose here is that the set of immobile indices consists of isolated points and hence is finite. This assumption is weaker than the Slater constraint qualification and therefore the optimality conditions obtained

in the paper are more general when compared with those usually used in Linear Copositive Programming. Further, we use the immobile indices to construct a pair of regularized dual copositive problems and show that regardless of whether the Slater condition is satisfied or not, the duality gap between the optimal values of these problems is zero.

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