

1086-VM-2487 **Tien Chih*** (tien.chih@umontana.edu), 118 Helena Ct., Missoula, MT 59801. *Abstract Affine Programming and Generalized Tucker Tableaux - Preliminary Report*. Preliminary report.

The traditional study of the theory and applications of the canonical primal maximization and the dual minimization affine constrained optimization problems have been well studied over the last hundred years. This traditional study has been very basis and coordinate dependent, as is natural for the applications to real world settings. A large part of this study is the discovery of very beautiful duality theory, and theorems regarding the existence of forms of optimal solutions.

It is natural then to attempt to describe this theory in as general, clean and abstract a way as possible. We want to abstract and generalize these situations to vector spaces of arbitrary dimension, over arbitrary ordered fields. We explore the theorems of classical affine programming, and generalize their statements to this abstract setting. We then discuss some possible approaches to demonstrating these generalized statements. (Received September 25, 2012)