

1096-VM-2226      **Tien Chih\*** ([tien.chih@umontana.edu](mailto:tien.chih@umontana.edu)), 118 Helena Ct, Missoula, MT 59801. *Classical Linear Optimization in an Abstract Setting*. Preliminary report.

The study of classical linear (or affine) programming gives rise to a very satisfying duality theory, and yields some beautiful results. However, the classical setting takes place in a relatively restrictive setting: finite dimensional real vector spaces. The usual approach is also extremely coordinate-centric and element based.

Many of the problems of affine programming may be described in a more general settings. We may also place a greater emphasis on functions or morphisms in our approach. Here, we describe the questions posed in classical affine programming in as general a setting as possible. We then state several classical affine programming results and describe the hypothesis under which each hold in as great a generality as possible. (Received September 17, 2013)