

Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-05-987 **Rigoberto Florez*** (florez@math.binghamton.edu), Department of Mathematical Sciences, Binghamton University, Binghamton, NY 13902-6000. *How the harmonic conjugate works in the algebraic matroids to construct algebraically nonrepresentable matroids.* Preliminary report.

A matroid is a generalization of the independence structure of a finite set of vectors. There are no linear relations, only dependent and independent sets. This structure is present in different subjects of math. For example in matrices, vectors, graphs and transcendental extensions of fields. The latter of this matroids is called algebraic.

A matroid M is algebraically representable, if there is a map from M to some algebraic matroid, which preserves the independent and dependent sets.

Algebraic matroids have not been well studied, compared with other kinds of matroids. The reason is that there are not enough tools to work on them. In this talk, we will discuss how a generalization of the concept of harmonic conjugation (from projective geometry) can be used as a tool to construct algebraically nonrepresentable matroids. (Received October 01, 2004)