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Thomas Britz, Dale Olesky, Pauline vanden Driessche and Bryan L. Shader*
(bshader@uwyo.edu), Math Department 3036, 1000 E. University, Laramie, WY 82071. *Sign patterns, inverses, and generalized inverses*. Preliminary report.

In this introductory talk definitions, concepts and results from qualitative matrix theory will be presented, and then applied to various problems concerning the relationship between the sign-pattern of a matrix and its inverse or generalized inverse. In particular, necessary conditions for a sign pattern to allow a matrix with an (entrywise) nonnegative left inverse, and sufficient conditions for a sign pattern to allow a matrix with an (entrywise) nonnegative Moore Penrose inverse will be discussed. (Received August 22, 2005)