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Frank J Hall* (matfjh@langate.gsu.edu), Department of Mathematics and Statistics, Georgia State University, 30 Pryor St, Atlanta, GA 30303. *Minimum Rank, Boolean Rank, and Schein Rank of Nonnegative Sign Pattern Matrices.*

A nonnegative sign pattern matrix is a matrix whose entries come from the set $\{+, 0\}$. Such a matrix can also be viewed as a Boolean matrix, by replacing each $+$ entry with 1. In this talk, some interesting connections between nonnegative sign pattern matrices and Boolean matrices are investigated. In particular, the relations between the minimum rank, the Boolean row (or column) rank, the Schein rank, and nonnegative minimum rank factorizations are explored. (Received January 31, 2008)