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2005  
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## FINDING A MATRIX OF GIVEN SIGN PATTERN AND LINE SUMS USING THE REVISED SIMPLEX METHOD

**Daniel A James** *University of San Diego*

**Abstract of Talk:** Using the Revised Simplex Method, we solve the problem  $P(A,r,c)$  described as follows. Let  $A$  be an  $m$  by  $n$  array whose entries are  $+$ 's,  $-$ 's, or  $0$ 's, and let  $r$  and  $c$  be real vectors such that  $r$  is a row vector and  $c$  a column vector. Find an  $m$  by  $n$  matrix  $B$  with sign pattern  $A$  and row sums  $r$  and column sums  $c$  when its solution is known to exist.