

1071-90-17

**Shafiu Jibrin\*** (Shafiu.Jibrin@nau.edu), Department of Mathematics & Statistics, Northern Arizona University, Flagstaff, AZ 86011-5717, and **Jim Swift**. *Constraint Consensus Methods for Finding Strictly Feasible Points of Linear Matrix Inequalities*.

We apply two of John Chinneck's constraint consensus methods to handle linear matrix inequalities. The original and DBmax methods find points near the feasible region defined by general nonlinear constraints. We modify and combine these methods to give four different new methods in a way that extends the length of the consensus vectors to find points in the interior of the feasible region. We present results of numerical experiments that compare the four methods. We note that our methods are applicable to other constraints including non-convex types provided the gradients and the crossing points are computable. (Received December 01, 2010)