

**SOLVING LARGE-SCALE SEMIDEFINITE PROGRAMS IN
PARALLEL**

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AUTHOR'S RESPONSE TO REFEREE #2

We thank the referee for a thorough review and constructive comments, which we address below.

Equation (7) has been corrected by rewriting parts of Section 2.1.

Table 1 and Section 9.1.1 now provide the full block structure and other details of all the test problems.

The run time on NaH/64 in Table 7 is not a typo; a paragraph has been added to Section 9.5 to explain the anomaly.

We made a serious attempt to enlarge the test set, but this is not so easy. The standard test sets (eg. DIMACS and SDPLIB) have only a few problem classes that can be converted to eigenvalue optimization. Among these, we had to exclude certain problem classes in combinatorial optimization (such as max-cut) since the present data distribution scheme doesn't effectively parallelize them. They need to be treated in a problem-dependent way as mentioned in the paper. Besides, a key contribution of the paper is the handling of block structure, so block structured test problems are required to illustrate the performance of the method. Outside of the chosen problems, the standard test sets contain few instances (perhaps none) that are simultaneously block structured and amenable to reformulation as eigenvalue optimization.

We thank the referee for the excellent suggestion of combining the preprocessing technique based on matrix completion with the Block Structured Lanczos Method. It is indeed advantageous to first apply the preprocessing technique prior to using the Block Structured Lanczos method within the bundle algorithm.