

## Referee Report on

Behavioral measures and their correlation with IPM iteration counts on  
semidefinite programming problems

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In this paper, the authors considered four different measures for SDP and tried to establish some sort of links between the practical performance of IPMs for SDP and these measures. These measures are transparent extensions of their LP counterparts. Several technical results are presented about these measures and the computation of these measures is also discussed. Most results in the paper are mathematically solid and the paper is also well-organized.

Though most results in the paper are interesting, the referee is quite puzzled by the attempt to use these measures as a potential indicator/predictor for the practical performance of IPMs for SDP. Based on the referee's experience (one of the authors, Dr. Toh should know this clearly), the performance of IPMs for SDP depend more on various heuristics in the update of the duality gap parameter and in the design of predictor-corrector-type method. By change some of these strategies (not the measures), the performance of IPMs might change substantially. These measures might be very helpful in the study of other perspectives of IPMs, but does not make sense to link them to the practical performance of IPMs.

To some extent, the reviewer believes some conclusions in the present paper are misleading and not justified. Based on the above point, the referee won't recommend the acceptance of the paper.